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**AT THE STROKE OF A BRUSH:
Painted Architecture as a Preservation Alternative**

Derek Christopher Satchell

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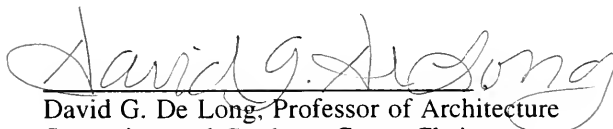
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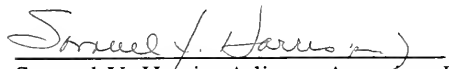
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David G. De Long, Professor of Architecture
Supervisor and Graduate Group Chairman


Samuel Y. Harris, Adjunct Associate Professor, Historic Preservation
Reader

Dedicated to the Divine Creator
of All Things

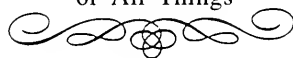


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INTRODUCTION

Historic preservation can be defined generally as the act of saving tangible evidence of a society's architectural heritage. However, this endeavor becomes insuperable when significant exterior architectural elements or entire facades are missing. Physical replication is the most desired solution, often made impractical in the face of present sky-rocketing construction costs, the absence of craftspeople required to accomplish the job, the economic infeasibility of re-using original noble materials, and the question of authenticity.

The result of these constraints has fostered great demand for new approaches to replication. Painted architecture, as a form of replication, can create a degree of visual realism sought, although it is never taken seriously as a preservation alternative. This technique is avoided by people interested in building preservation because it is based on one's individual perception, and therefore questioned by potential users because of the emphasis placed on the unreliability of the human senses.

According to psychologist Robert Feldman, it is natural for human beings to see things as a completed whole(s) instead of spotted totalities. In fact, the human eye will automatically compensate for missing visual information, caused by a blind spot, by using nearby material to complete what is unseen.¹ If this magnificent power of optical illusion can be harnessed and utilized, by painted architecture, it can serve to complete our existing spotted vernacular. This supplementation may complement the

¹ Feldman, Robert S. Understanding Psychology. (New York: McGraw-Hill Book Co., 1987), p.88.

"real" architecture by activating curiosity about where "we" are, inspire some reverie about the future, and perhaps elicit a whimsical smile about where we've been, without making a mockery of it.

It is the goal of this study to promote exterior painted architecture as a viable alternative of historic preservation, and to make conservators, architects and artists realize what tremendous possibilities lie before them. The objective is to present this subject, which is as old as humanity itself, in a useful way worthy of induction to the field of historic preservation.

Chapter one will briefly review the history of painted architecture and its evolution to the exterior of buildings. The focus will be on achievements of the past to see what ideas can be salvaged. Chapter two will take a critical look at contemporary work of this nature and discuss individual successes and failures. Chapter three will define painted architecture as a preservation alternative and establish the fundamental principles for its use. Chapter four will examine the technical side of this subject including procedural, fabrication and conservation aspects. Chapter five will propose an experimental design solution. The conclusion will re-evaluate the aims of architectural painting and its success or failure as an intervention tool within historic preservation.

CHAPTER ONE

The History of Painted Architecture

Before setting out on a tour through the history of this subject, the reader might ask what exactly is painted architecture? And what makes it different from other forms of painting?

Painted architecture properly falls under the heading of *trompe l'oeil* as a type of optical illusory art. The term, *trompe l'oeil*, is French in origin and literally translates into "that which deceives the eye."² Technically, it is any painting or drawing in which images are shown in perspective and the overall composition contains the illusion of depth.³ This technique is heightened by the meticulous attention to detail delineated with the utmost exactitude. The resulting "trick" is the appearance of reality so skillfully feigned by the artist that although the brain thinks what the eye is seeing is three-dimensional, it is only a thin veil of paint drawn across a canvas.⁴

Painted architecture, or architectural *trompe l'oeil*, is based on these same principals. However, because of its nature, the architectural images are normally painted on walls and ceilings rather than on canvas.⁵ Furthermore, unlike other paintings in which the object exists in isolation strictly within a bounded frame, painted architecture fits comfortably into

² Mastai, M.L. d'Otrange. Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism. (New York: Crown Publishers, Inc., 1975), p.8.

³ Plant, Tim. Painted Illusions. (London: Wardlock Limited, 1991), p.20.

⁴ Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.19.

⁵ Plant, op. cit., p.20.

its surroundings.⁶ Ideally, it is incorporated into the existing architecture where the actual structure of the environment can be extended or modified by paint.⁷ This kind of decoration, which evolved from the interior to the exterior of buildings, is not a new concept and has existed in various forms since ancient times.

In a historical context, Egyptian contributions to painted architecture are frequently overlooked, primarily because they made no attempt at perspective as we know it today. To the Egyptians, painted decorative images were regarded solely as non-existing, symbolic representations depicting a story; thereby no attempt was made to achieve visual realism.⁸ The product was a very flat "planate" style of art, rendering only that which could be seen in one plane, and totally suppressing depth motifs by intentionally excluding three-quarter and oblique views of the portrayed image (see Illustration 1).⁹ But this intentional neglect in Egyptian imagery would later serve as inspiration in the pursuit of realism during the Classical era. Egyptians were aware of visual realism as evidenced by their sculptural art, and refined this technique through the execution of numerous works (see Illustration 1a).

In terms of architectural trompe l'oeil, the Egyptians established the primary tenants from which it evolved; imitation and re-creation. Egyptian painted decoration often imitated rare building materials. For aesthetic purposes, as early as 3000 B.C., they imitated with the use of paint speckled red granite and other exotic stones.¹⁰ Wood graining was

6 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.20.

7 Plant, Tim. Painted Illusions. (London: Wardlock Limited, 1991), p.20.

8 Panofsky, Erwin. Meaning of the Visual Arts. (New York: Doubleday Anchor Books Press, 1955), p.99.

9 Ibid., p.72.

10 Chambers, Karen. Trompe L'oeil at Home. (New York: Rizzoli, 1990), p.30.

also a popular painted finish. Because of the country's dry climate, wood was a scarce commodity and had to be imported from Syria, making it a commonly replicated material.¹¹ As evidence of this continuing tradition, the Fourth Dynasty tomb of Prince Merab was panelled with grain-painted wood.¹² Such forerunners in graining and marblizing initiated the history of faux finishes that is so familiar today.

As art developed, so did construction skills and science. The chief buildings included massive pyramids and temples with impressive external forms (see Illustration 1b). The interior spaces created were mostly cramped. Perhaps to remedy this situation, ceilings of major spaces were painted blue and decorated with stars or birds in flight to suggest openings to the sky (see Illustration 1c).¹³ The use of this technique, combined with a growing interest in astronomy, meant that the Egyptians were the first to invent the illusionistic effect of spatial re-creation. Development of this innovative hallmark was restricted to interiors as a result of a conscious decision to duplicate the heavens upon their ceiling based on religious beliefs, and the harsh desert conditions of their environment. In order to contend with flying sand erosion and the blazing sun, paint on exteriors was limited to intense colors (see Illustration 1d).¹⁴

When Greek painters undertook illusionistic painting between 700 and 100 B.C., the glory that was Egypt was already considered remote antiquity.¹⁵ The nature of painted Egyptian art seems to have had little

¹¹ Ibid., p.41.

¹² Ibid., p.157.

¹³ Ibid., p.130.

¹⁴ Blasfield, Edwin H. Mural Painting in America. (New York: Charles Schibner's Sons, 1923), p.12.

¹⁵ Mastai, M.L. d'Otrange. Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism. (New York: Crown Publishers, Inc., 1975), p.27.

artistic influence on the Greeks.¹⁶ Instead, the Greeks began to explore schematically the technical aspect of painting that had been ignored by the Egyptians; reaching a level of sophistication unrivalled until the Renaissance.¹⁷ Although there are no surviving Grecian examples, the existence of trompe l'oeil is documented in the writings of Greek philosophers who frequently deliberated over its use.

Unlike their predecessors, Greek painters used their talents to provide decorative schemes intended as backdrops to everyday life, as opposed to an inventory of it.¹⁸ According to Vitruvius's De Architectura, written in the first century A.D., the first recorded Greek illusory painting was conceived as a piece of stage scenery to serve as a backdrop for a tragedy by Aeschylus.¹⁹ It was probably a mock curtain similar to the one painted by Parrhasius.²⁰ Yet, these trompe l'oeil effects illustrate only the decorative side of the subject.

One example of the various architectural schemes employed, was that of painted windows that provided an illusion of light in otherwise windowless rooms.²¹ By 385 B.C., the study and use of this technique that incorporates perspective in painting was very popular among artists, but philosophers such as Plato, were extremely cautious of this new skill and discouraged its use.

Plato, from whom the formulation of this view derives, rejected pictorial imitation due to the painting's illusionistic character. He believed

16 Plant, Tim. Painted Illusions. (London: Wardlock Limited, 1991), p.9.

17 Seligman, Patricia. Painting Murals. (Cincinnati: North Light Books, 1988). p.10.

18 Ibid., p.10

19 Vitruvius, translated by Frank Granger De Architectura. (London: Loeb Classical Library, 1970). p.53.

20 Chambers, Karen. Trompe L'oeil at Home. (New York: Rizzoli, 1990). p.124.

21 Seligman, Patricia. Painting Murals. (Cincinnati: North Light Books, 1988). p.10.

that the realm of optical experience, on which the painting is based, was devoid of truth and confused man's sense of perception.²² Instead, Plato's *Republic*, recommended an education in music based on mathematical order; whereas painting strengthened man's dependence on illusory images.²³ The Greeks eventually learned to question the reliability of the human senses, stopping short of condemning trompe l'oeil. Instead, they conceived the dichotomy of perceiving and reasoning while maintaining the belief that direct vision is the first and final source of wisdom.²⁴

After the Roman subjugation of Greece around 300 A.D., the existence of trompe l'oeil can be found in the palaces and villas of the Romans.²⁵ The architectural trompe l'oeil tradition, in most cases, was continued by immigrant Greek painters in the pay of Roman patrons.²⁶ Nevertheless, existing physical vestiges of Roman architectural trompe l'oeil demonstrates the achievement of its advancing sophistication resulting in its classification by Vitruvius into four distinct "styles."

First Style is the imitation of rare building materials; a continuation of the most common and simplest form of trompe l'oeil (see Illustration 2).²⁷ Only a few examples of this style are found throughout the known provinces of the Empire, but many have survived in the old Greek trading-

22 Barasch, Mosche. Theories of Art: From Plato to Winckelman. (New York: New York University Press, 1961), p.5.

23 Arnheim, Rudolf. Visual Thinking. (Los Angeles: University of California Press, 1969), p.2.

24 Ibid., p.12.

25 Mastai, M.L. d'Otrange. Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism. (New York: Crown Publishers, Inc., 1975), p.38.

26 Plant, Tim. Painted Illusions. (London: Wardlock Limited, 1991), p.9.

27 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.10.

post areas of southern Gaul.²⁸ It was in Rome, however, that illusionistic representation of classical architectural features seem to have originated.²⁹

Dating from the beginning of the first century B.C., the earliest example of Second Style is a wall painting in the House of Griffins on the Palatine. The wall painting depicts an illusionary projecting base with columns supporting a cornice and coffered ceiling on a recessed wall.³⁰ From this deceptive execution, decoration creating the illusion of space by the impression of perspective-like painted architecture spread rapidly throughout Italy and her provinces, where this style was further developed.³¹

Reaching an artistic climax around the middle of the first century B.C., one of the finest existing works in Second Style was found at the Villa of the Mysteries at Pompeii (see Illustration 2a). The compositions consist of wonderful trompe l'oeil effects on multiple planes, with colonnades in the foreground and views of towns and religious buildings surrounded by porticos in the distance.³² However, later works in Second Style became less realistic as columns are attenuated and idyllic landscapes depict scenes with strong elements of fantasy.³³

After the battle of Actium around 30 B.C., a Third Style became popular and was introduced perhaps as an aesthetic reaction to the previous style by utilizing newly invented techniques.³⁴ The result was a reversion to the method of the "open" wall, but instead of striving for deep

28 Guillaud, Jacqueline and Murice. Frescoes in the Time of Pompeii. (Paris: Clarkson Potter, Inc., 1990). p.43.

29 Ibid.

30 Ibid.

31 Maiuri, Amedeo. Roman Painting: The Great Centuries of Painting. (Naples: Skira, 1989). p.42.

32 Guillaud, op. cit., p.43.

33 Ibid., p.44.

34 Ibid., p.45.

perspective views, an airy lightness was sought.³⁵ Having allowed themselves a larger freedom of expression, Roman painters became less obsessed with ornamentation and showed dreamlike architectural forms amidst large tracts of color (see Illustration 2b).³⁶ By the final phase of the Third Style, walls were no longer dominated by weighty realistic painted architecture, incorporating miniature landscapes.³⁷ Although the main idea of spatial segmentation is still respected by the painter, it is devalued. The wall is again seen as a surface to be "illuminated" rather than structured.³⁸

During the last thirty years of Pompeii (45 - 79 A.D.), a Fourth Style began to emerge where elements of the older styles were incorporated into new schemes using different techniques.³⁹ This final mode was highly eclectic and appears to have been a sort of compromise between decorative and illusionistic composition. Above all, the Fourth Style reflected a combination of the first three trends, but usually reverted to the use of prospect vistas inspired by the theatrical representations so beloved by Nero (see Illustration 2c).⁴⁰

Surprisingly, despite all the Pompeian technical developments in architectural painting, archaeologists are still uncertain whether the ancients actively evolved a system of perspective based on a single vanishing point, as was exploited during the Renaissance.⁴¹ This uncertainty reflects the consequent irrationality of the architectural

35 Maiuri, Amedeo. Roman Painting: The Great Centuries of Painting. (Naples: Skira, 1989), p.47.

36 Ibid.

37 Guillaud, Jacqueline and Murice. Frescoes in the Time of Pompeii. (Paris: Clarkson Potter, Inc., 1990), p.45.

38 Ibid.

39 Maiuri, op. cit., p.47.

40 Guillaud, op. cit., p.48.

41 Plant, Tim. Painted Illusions. (London: Wardlock Limited, 1991), p.10.

elements found throughout the styles, which effectively destroys any optical illusion to the modern eye.⁴² Lastly, although the First Style was utilized on exteriors to achieve visually material homogeneity on building facades, it is uncertain if the Romans also employed the latter styles as a form of exterior enhancement (see Illustration 2d).

Paralleling the fall of Rome, the advent of Christianity established symbolism, not realism, as a new artistic ideal.⁴³ Decoration incorporating painted architectural images continued to flourish, but the refinements and masterly techniques that had previously evolved were banished by the Church. Visual reality in art was now viewed as pagan abomination and the retrogressive shift toward a rigid, schematic symbolism commenced.⁴⁴

What was produced during medieval times was a mode of painting that is classified as "planar."⁴⁵ Medieval representations are absolutely flat and all attempts of plasticity or realism are severely devalued (see Illustration 3).⁴⁶ While images do appear in three-quarter and oblique views, they are only expressed by a manipulation of linear contours and flat areas of color without the impression of depth.⁴⁷ In other words, where the Egyptian method had been constructional and that of the Classical period anthropometric, the medieval method may be described as schematic.⁴⁸

42 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.10.

43 Mastai, M.L. d'Otrange. Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism. (New York: Crown Publishers, Inc., 1975), p.51.

44 Ibid., p.53.

45 Panofsky, Erwin. Meaning of the Visual Arts. (New York: Doubleday Anchor Books Press, 1955), p.72.

46 Ibid.

47 Ibid., p.73.

48 Ibid.

After approximately seven hundred years, artists gradually began to rediscover principal factors which made the rebirth of illusionism possible: volumetric painting and spatial perspective.⁴⁹ One of the earliest Medieval practitioners of these principles was Giotto. His paintings such as *La Nascita Della Madonna* (1304 - 1306) in Padua is an obvious continuation, though highly developed, of the broken tradition of early perspective painting since the end of the Roman Empire (see Illustration 4).⁵⁰ By the start of the fifteenth century, an integral part of any painter's repertory were painted architectural settings similar to those used by Giotto.⁵¹

Around 1420 A.D., Italy was faced with a growing secularism and a renewed interest in Classical Roman civilization. It was during this eve of the Italian Renaissance that the most significant influence on architectural trompe l'oeil was conceived. Sired by a new kind of architect, who was a versatile craftsman as well as a creative artist pursuing aesthetic truth, the principles of linear perspective and foreshortening were born.⁵²

Based on the guidelines devised by Fillippo Brunelleschi, his contemporary, the painter Masaccio, executed *Holy Trinity* in 1427 (see Illustration 5).⁵³ Inspired by elements of Brunelleschi's own work in the Pazzi Chapel, Masaccio's painting became an illusionistic milestone. First, the simulated design was based upon an "existing" physical model.⁵⁴ Second, the sense of realism is increased by the placement of figures "outside" the architectural setting that constitutes the "frame" of the

49 Mastai, M.L. d'Otrange. *Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism*. (New York: Crown Publishers, Inc., 1975), p.54.

50 Plant, Tim. *Painted Illusions*. (London: Wardlock Limited, 1991), p.10.

51 Mastai, op. cit., p.95.

52 Ibid., p.112.

53 Ibid., p.59.

54 Ibid., p.61.

painting,⁵⁵ thereby creating a fictional realm that implies a visual sense of accessibility of its viewers to their diety.

Architectural trompe l'oeil divided into two distinct classes: those for which the architectural background served purely as aesthetic composition, and those painted works to be integrated with the existing architectural scheme.⁵⁶ Of the former category, artists such as Michealangelo and Raphael would create what are probably the most recognized examples (see Illustration 6 and 7). In terms of the latter, the first vestige of this kind was painted by Donato Bramante in 1480 A.D.

For the sacristy of Santa Maria presso San Satiro in Milan, Bramante created the semblance of a vast arched choir with a coffered vaulted ceiling (see Illustration 8).⁵⁷ Appearing to stretch far into the distance, the apse is actually a mere four feet away (see Illustration 8a).⁵⁸ This "trickery" would inevitably serve as titillation to other Renaissance painters who quickly grasped the possibilities offered by illusionism (see Illustrations 9 and 10). Depicting orgies of painted pillars and pinnacles, ascending galleries dotted by flying saints and angels, opening clouds and innermost heavens in endless vistas, painters succumbed to mystical ecstasies that went far beyond anything that could be built in earthly materials (see Illustration 11).⁵⁹ By the end of the eighteenth century, painters became almost intoxicated by their own skills as painted architecture, in most cases, replaced its real counterpart.⁶⁰ While these developments were occurring

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Ibid.

56

Mastai, M.L. d'Otrange. Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism. (New York: Crown Publishers, Inc., 1975), p.98.

57

Ibid., p.144.

58

Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.11.

59

Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.37.

60

Battersby, op. cit., p.11.

on the interior, Renaissance painters made use of similar advances in the abolition of blank walls on the building exterior (see Illustrations 12 and 13).

The limitations of asymmetry imposed by existing medieval architecture was viewed as undesirable by Italian artists and architects.⁶¹ The solution was to re-interpret existing facades into fluid compositions, where all the building's parts contributed to one general effect.⁶² Propounded by the architect Alberti, this idea became known as *convenienza* or *conformita*.⁶³ Now, architecture not only became a place to display painting as ornament, but also fulfilled an illusionistic need to correct physical inabilities that the building alone could not manage.⁶⁴ While these facade designs may not be available today, many schemes are documented by original drawings and written descriptions (see Illustration 14).

Painted in 1512 A.D., drawings for the "Casa dei Borghesi" in Italy, by Domenico Beccafumi clearly depict such a proposal design (see Illustrations 15 and 15a).⁶⁵ According to Varsari's description, Beccafumi's skill in veiling the reality of a still medieval facade with an illusionary system of entablatures and supporting members is extremely admirable. In addition to creating rhythmical organization and formal integrity, Beccafumi's use of a foreshortening technique of perspective

61 Panofsky, Erwin. Meaning of the Visual Arts. (New York: Doubleday Anchor Books Press, 1955), p.99.

62 Feibusch, Hans. Mural Painting (London: Adam & Charles Black, 1947), p.34.

63 Panofsky, op. cit., p.190.

64 Feibusch, op. cit., p.34.

65 Panofsky, op. cit., p.226.

allowed the painted entablature to appear to project beyond the "real" wall.⁶⁶

In a more light-hearted manner, Hans Holbein the Younger (see Illustration 16) was commissioned to paint two facades of the House of the Danse at Basle, Switzerland circa 1520 A.D. (see Illustration 16a).⁶⁷ Originally medieval in design with irregularly placed windows, the building was painted festively in the High Renaissance manner (see Illustrations 16b and 16c).⁶⁸ According to historical records, the facades were described as bleached by weather, but survived as late as the seventeenth century.⁶⁹ Although in Europe exterior painted architecture continued well into the following centuries, many examples chronicling evolutionary development were lost because of weather erosion or changes in aesthetic opinion.

Just how early painted architecture came into use in the United States is hard to say. There are numerous interior examples which date as early as 1800, however, very few exterior uses are documented.⁷⁰ Simple American manifestations, such as the painted verandah of the Whitney Plantation mansion near Wallace, Louisiana, were executed during the late eighteenth or early nineteenth century (see Illustrations 17 and 17a).⁷¹ By the 1850's, exterior murals began to utilize more elaborate design schemes similar to those found at the Alsop House in Middletown, Connecticut (see Illustration 18). However, American painted architecture never reached

66 Ibid., p.229.

67 Bergstrom, Ingvar. "Revival of Illusionistic Wall Painting in Renaissance Art". (Goteborg Universitets Arsskrift, vol. LXIII, 1957), p.7.

68 Ibid., p.8.

69 Ibid., p.8.

70 Little, Nina Fletcher. American Decorative Wall Painting. (New York: E.P. Dutton, 1972), p.110.

71 Kilpatrick, Thaddeus Roger, III. A Conservation Study of the Decorative Painting at Whitney Plantation. (Thesis: University of Pennsylvania, 1992), p. 10.

the technical virtuosity of the European tradition.⁷² Rather, painted architecture remained in the hands of amateur painters and was eventually reduced to the imitation of wood-graining and marblizing.⁷³

The Industrial Revolution brought an overall decline in trompe l'oeil.⁷⁴ The attention of painters and their creative powers had turned to other directions, while architects themselves were coping with new design problems.⁷⁵ Falling into another "dark age," trompe l'oeil would not be fully re-instated in America until the twentieth century.⁷⁶

During the 1930's, a revival in trompe l'oeil was stimulated by the budding surrealist movement in art.⁷⁷ In hopes of gaining greater public acceptance by using trompe l'oeil as a historical precedence, surrealist artists incorporated these techniques in their work, yet their simplified state of trompe l'oeil remained primarily on canvas.⁷⁸ In terms of architecture, the Modern movement, with its armour of steel, concrete and other hard materials, eschewed ornament and more often expressed its form in hollow white boxes. This new monotonous and transparent architecture eventually led to decorative suffocation.⁷⁹ In an environment of blank surfaces, the outer wall could not tolerate mystification and continued to remain bare to proclaim its functionalism.⁸⁰

When contemporary artists took possession of the bare wall by the 1970's, they made it a place of intervention speaking for the people living

72 Little, op. cit.

73 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.14.

74 Ibid.

75 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947). p.18.

76 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974). p.15.

77 Ibid., p.16.

78 Ibid.

79 Milman, Miriam. Trompe L'oeil Painted Architecture. (New York: Rizzoli International Publications, Inc., 1986), p.95.

80 Ibid.

in the neighborhood (see Illustration 19 and 20).⁸¹ Hence, a reaction against the rigidity of modern architecture was born. Today, painted architecture is beginning to revive from its sleep of conventionality, aroused by a desire to return to a more artistic past which has given birth to the great schemes executed by our present "renaissance" artists (see Illustration 21).⁸²

From this brief historical sketch, the reader will see that exterior painted architecture is certainly not a new idea. Created from a long and highly sophisticated lineage, this illusory technique of replication also reflected changes within existing social context; variations in style, and advancements in building technology. However, the intent of this survey is not to illustrate the vast and complicated panorama of painted architecture in its entirety, but to highlight a few significant examples that suggest new ways of intervention partially remedying our existing spotted historic landscape while establishing governing principles for its use.

81 Ibid.

82 Milman, Miriam. Trompe L'oeil Painted Architecture. (New York: Rizzoli International Publications, Inc., 1986), p.95

CHAPTER TWO

Case Studies of Painted Architecture:

The Works of Lisa Gold, Philip Jordan, and Richard Haas

Several contemporary artists are able to encompass the exacting techniques of trompe l'oeil and have exploited its potential through the application of painted architecture on the exterior of existing buildings. Impressive advancements have been made ranging in virtuosity from the fanciful to the convincing; literally pushing the limits of the art form. While the following survey is limited to a selected few of innumerable exterior paintings, the scope of possibilities exhibited by these examples creates the basis for their evaluation as a preservation option.

In 1989, a previously plain five story brick apartment building at 163-167 Ludlow Street, New York City, was whimsically transformed through a delightful architectural trompe l'oeil into a new highly regarded landmark (see Illustration 22). A dilapidated community eyesore, the tenement was built circa 1904 by an undocumented builder. Lisa Gold at Born of Brush Studios, recognized the situation because Born of Brush Studios occupied the ground floor gallery at that time. She decided to paint the building. Designed as a socially motivated gesture intended to improve the neighborhood, when completed Gold's proposed mural would serve as a celebration of the decorative richness of a bygone era.⁸³

Once permission was obtained from the building owner, Gold was commissioned to do the job. The overall design concept was simple; the

⁸³ Telephone interview with Lisa Gold, Born of Brush Studios, Inc., New York City, November 15, 1993.

embellishment of the entry level of an apartment building through the articulation of windows and doors with implied classical details (see Illustration 22a).⁸⁴ From a philosophical perspective, the artist has achieved a wonderful sense of theatrical pageantry. The painting accomplishes three goals. First, the design is bold enough in its design to humanize the face of a flat and massive structure. Second, its presence provides a sense of place and future value for the older neighborhood by fostering community identity. Third, the painting releases a kind of energy that can stimulate neighborhood maintenance and proprietorship of place because of the notoriety associated with it.

In terms of the artist's organizational approach, Gold gracefully compliments the rigid ordering of the existing facade openings. Within the boundary of the painting, the windows are individually accentuated by framed crowns and reflect a similar effect exhibited in the strict capitulation of segmented arched windows that exist above, while the walls are enlivened by simulated niches housing classically inspired statuary (see Illustration 22b). To define building entrances, doorways are painted with flanking columns supporting elliptical cartouches (see Illustration 22c). This composition not only formally reinforces each entry, but most especially it provides stylistic unity. Despite the domineering effect of the painting's field color, it manages to successfully hide the rough surface of the facade by drawing attention away from it.

The once bland uniform anonymity of the building, which served as a major contributing factor to the social failure of the streetscape, is replaced with a new aesthetic order. As continuity with the surrounding environment is forsaken, a new stately visual context emerges fostering the

⁸⁴ Chambers, Karen. Trompe L'oeil at Home. (New York: Rizzoli, 1990). p.201.

virtuous social value of its iconography. To the delight of the neighborhood, Gold's fanciful painting is an overwhelming success measured directly by the unanimous positive reception.

Another talented artist, Philip Jordan, artfully transformed a blank facade of the Canterbury Ales Restaurant building in Huntington, Long Island. Jordan accomplished this transformation by applying layers of paint and using his expertise in architectural trompe l'oeil.

Built in 1925, the three story brick building is located at 314 New York Avenue and does not possess any specific architectural significance (see Illustration 23). The west (front) facade has a wood veneer cladding on the ground floor and exposed brick construction above while the north (side) facade is a brick wall trowelled entirely with portland cement. The south (rear) facade has an adjoining one story wood-frame addition, while the remaining south facade serves as a party wall to a neighboring three story structure. Building fenestration consists of a pointed arched doorway and three stained glass bay windows on the front ground floor, with five double hung one-over-one wood sash windows on the second and third floors. The north facade has one double hung one-over-one wood sash window on the second and third floors, at opposite ends of the elevation.

In 1982, the restaurant and building owner, Dayna Riggs, approached Jordan, who was working on a decorative mural in the area and commissioned him to paint the restaurant's blank north wall. Jordan's idea was to use this void surface like a gigantic canvas by painting upon it an architectural replication of the building's main facade⁸⁵, including the wood veneer detailing that Riggs added to the building by in 1977. Prior to the mural's commencement, the proposed design had to meet the

⁸⁵ Ibid. p.83.

approval of Huntington's town planning department. Surprisingly, the various permits needed to execute the mural was not based upon the neighborhoods nor the building's historical significance, but rather upon exacting signage codes governing the commercially zoned vicinity.

Working on the project for approximately three months, Jordan's painting added six illusory windows to the two already present and created a perfect match to the building's main facade (see Illustration 23a). As a facetious touch, one of the painted windows appears open as if to flout changing weather conditions. Upon the mural's completion, the building's owner Dayna Riggs reports that the work was well received by neighborhood residents and town officials because it is seen to eliminate a long-time eyesore (see Illustration 23b).

Jordan's success is not limited to the United States. From 1979 to 1983, he also created several painted architectural murals in Paris.⁸⁶ One of the most notable exterior examples occupies an interior courtyard wall at the U.S. Ambassador's residence, 41 Rue du Faubourg, St. Honoré (see Illustration 24).

Originally known as "L'hôtel Pontalba," the house was designed in 1839 by Italian architect Ludovico Visconti (see Illustration 24a) as a private residence for the Baroness Pontalba, a rich widow from New Orleans.⁸⁷ Other works by this renowned architect includes the Tomb of Napoleon in the Invalides (1841), and the initial design of the new Louvre begun in 1852, but changed after his death by Hector M. LeFue.

The residence is a two story building of ashlar limestone construction originally designed in a classicizing revival manor (see

⁸⁶ Ibid. p.81.

⁸⁷ Hamon, Françoise and Charles MacCallum. Louis Visconti: 1791-1853. (Paris: Delegation a L'action Artistique de la ville de Paris, 1991), p.194.

Illustrations 24b and 24c). Built on a raised podium foundation, the first floor street and garden facades were composed of an arcade utilizing paired Roman Doric order pilasters. The round arched openings incorporated elaborately carved decorative surrounds and highly ornamented keystones, surmounted by a frieze composed of triglyphs and circular cartouches. The second floor facade echoed the symmetry of the lower elevation and utilized a masonry balustrade with paired Corinthian order pilasters *en podium*. The facade was terminated by an intricately carved low-relief frieze, roof-line balustrade, and statuary. Building fenestration consisted of large casement windows with alternating pedimented and segmental-headed surrounds. The entire structure was crowned by a double-hip, side gable roof culminated by spires and four limestone chimneys.

After the death of the Baroness in 1873, the house was sold to the Baron Edmond de Rothchild, who commissioned the French architect Felix Langlais to re-design the exterior of the house so that it would reflect the prevailing conservative Neo-Classic architectural trend (see Illustration 24d).⁸⁸ By the time the United States Government acquired the house in 1945, other extensive external cosmetic alterations and additions over the building's history had relinquished all architectural ornamentation from an interior courtyard wall, with the exception of the masonry balustrade crowning the first floor arcade.

Having completed a decorative mural for the U.S. Consulate, a Paris-based league of artists under Jordan's direction was commissioned in 1983 to paint the barren courtyard wall.⁸⁹ In this effort, the approach was to

⁸⁸ Ibid., p.196.

⁸⁹ Telephone interview with Philip Jordan, Caryl Hall Studios, Cold Spring Harbor, Long Island, February 15, 1994.

replicate architectural elements of the house based on existing features from other facades (see Illustration 24e).⁹⁰ This was achieved through a careful examination of the surrounding masonry features allowing Jordan to choose appropriate color pigments which skillfully emulates the delicate bloom, matte and chalky luminosity of the noble material imitated (see Illustration 24f).

The result was an effective, inviting compilation of simulated windows reflecting sky and clouds; decorative pilasters; moldings and capitals fashioned in the classicing mode of the house (see Illustration 24g). The mural's adherence to the strong architectural symmetry of the facade, without radically changing, obscuring or destroying overall building integrity serves as the foundation of its overwhelming success. Yet, even this sophisticated execution maintains a touch of capriciousness--a painted parrot perches on an imaginary window ledge.

As evidenced by these examples, Jordan's professional motive in painted architecture is to achieve full integration, strong visual connection and unity between the architecture and its painted facade.⁹¹ His goals are accomplished by artistically conforming to the material ordering of a given structure, by attending to existing architectural elements, and through an awareness of the various characteristics of building materials that serve to heighten the illusion. In combination with a mastery of light and shadow, known as *chiaroscuro*, and an excellence in draughtsmanship, Jordan produces wonderfully convincing illusions of which he is well known.

Yet, if the title "patriarch of contemporary painted architecture" could be bestowed upon an artist, American Institute of Architects arts

⁹⁰ Ibid.

⁹¹ Ibid.

medalist Richard Haas would surely be the honorable recipient. As the most widely recognized artist in this field, Haas has received innumerable awards and accolades for his work in combining whimsy with a definite sense of mission "to enrich and embellish".⁹² In 1974, Haas's first commission was the execution of the 3,300 square foot *SoHo Mural*, at 112 Prince Street in New York City.⁹³ Located within the city's historic SoHo District, the painting occupies an exposed party wall on the six story brick, cast-iron front structure (see Illustration 25).

Built around 1865 by an anonymous architect, the building's cast-iron east facade is organizationally composed of repetitive horizontal tiers, incorporating large openings and elaborate ornamentation. Such decoration includes attenuated columnettes, double cornice brackets utilizing an acanthus leaf motif, and incised Eastlake embellishment. The facade is terminated on center by a cast-iron pedimented parapet wall. The south facade (facing Greene Street) is constructed of brick with plaster rendered surfaces at the second and sixth floors, and serves as a party wall to an adjoining one story structure (see again Illustration 25). The west (rear) and north facades are also constructed of brick, while the latter adjoins a three story building. The building fenestration is comprised of maximum wall openings utilizing double hung, two-over-two wooden sashes.

Attracted to the work of a local organization City Walls, Inc., a group that advocated and funded the use of public art, Haas approached them in 1974 proposing the *SoHo Mural*. The idea for repeating the decorative appearance of the building's cast-iron facade to its blank south

⁹² AIA Journal, February 1978, p.44.

⁹³ Goldburger, Paul, intro. Richard Haas: An Architect of Illusion. (New York: Rizzoli, 1981), p.1.

wall was readily accepted (see Illustration 25a and 25b). However, since the project was viewed as public art utilizing local funding, permission had to be obtained from the owner, and the final design had to be approved by the local residents and municipal authorities. Given the artistic context of the mural, there were no objections and the painting was completed within five months.

Once executed, Haas's work was hailed by the majority of the community members as being an overwhelming success for its contribution to neighborhood beautification while retaining the building's historic character (see Illustration 25c). The countenance of the mural remained fairly unchanged for several years with only minor touch-ups needed. The mural's current appearance, however, has significantly deteriorated for several reasons. Ironically, the primary cause of its aesthetic demise is not due to the normal upkeep of the painting, but rather a consequence of the building's aging. In fact, the cast-iron facade required numerous cyclical paintings in order to remain visually compatible with its illusory counterpart. The enormous financial burden created by this sixty thousand dollar mural now acts as a deterrent for further monetary support required to maintain the painting.

In late 1976, the city of Galveston, Texas, was involved in the revitalization of its 19th century main street, the Strand (see Illustration 26). The architectural firm of Venturi and Rauch studied the street during the previous year and made a proposal incorporating the use of trompe l'oeil on the Springer Building.⁹⁴ Upon their suggestion, the Galveston Historical Foundation commissioned Haas to execute the work.

⁹⁴ Ibid., p.84.

The Springer Building, located at 2119-2123 the Strand, occupies a central site within the city block (see Illustrations 26a). The building's name comes from the Oscar Springer Company, a previous owner and the oldest printing firm in Texas until 1961.⁹⁵ Although the architect responsible is undocumented, the Springer Building was originally two separate structures. After suffering extensive storm damage in the 1940's, the two story 1878 Clara Lang Building and the adjoining 1877 Marx & Kempner Building were remodeled and combined into the present building.⁹⁶ Composed of brick construction, the entire south facing street facade is rendered in plaster.

The building's ground floor fenestration pattern consists of large paired openings with a double door located near the center of the facade. Second floor fenestration includes large square recesses in the facade that organizes openings into binary and ternary groups, topped by four small square individually-spaced openings on the third floor. Although all of the openings maintain a rigid vertical sense of ordering, specific window detailing is unknown because of the large interior metal security louvers located on all windows. The roof is flat and the building's end elevations serve as party walls to the adjoining two story structures.

The design stipulation given to Haas by the Galveston Historical Foundation, was to "provide a sense of visual unity with the surrounding architecture."⁹⁷ All restorative attempts using painted architecture were intentionally avoided for three primary reasons, according to the organization's former executive director Peter Brink. First, the significant

⁹⁵ Galveston Daily News. 10/27/81, p.1A.

⁹⁶ Ibid., 12/06/81, p.11B.

⁹⁷ Telephone Interview with Peter Brink, Vice President, National Trust for Historic Preservation, Washington, D.C. April 13, 1994.

absence of original character-defining architectural features constituted the building as historically non-contributing. Second, since the county government owned the property, using the facility to house the city's voting machines, there was insufficient funding available to support proper rehabilitation. Third, historic documentation on the building(s) is limited and does not provide satisfactory information for proper historic interpretation. Therefore, the mural was viewed solely as a decorative infill project to visually maintain streetscape coherency.

Haas's final design was a combination of architectural elements from his own imagination, neighboring structures, and those used by Nicholas J. Clayton, who was Galveston's leading architect during the late 19th century. Determined as an extremely successful venture by all parties involved, the Galveston Historical Foundation got more than just a pretty painting for \$17,000. The mural became a sound investment towards the stabilization of the city's vital historic district, and the visual re-incorporation of a building that was perceived as no longer architecturally significant by the area's preservation community (see Illustrations 26b). Today, the structure serves as a luxury apartment building. Although the physical condition of the mural has remained intact over the past eighteen years with only minor touch-ups, it has faded slightly (see Illustration 26c).

In the case of Haas's *Times Building Mural*, a once indistinguishable Crossroads Building tower in 1978, becomes a wonderful painted architectural tribute to another, more recognized structure. Designed in 1906 by Henry Ives Cobb, the seven story steel post and beam commercial building, with terra cotta cladding, is located at 1465 Broadway and 42nd Street in New York City (see Illustration 27). Surmounting the building is a 130 foot tall, 28 foot square masonry block tower.

The building's ground floor elevations consist of a segmented arch arcade, crowned by a large second floor neon sign installed around the building perimeter. General building fenestration is composed of large double windows with projecting masonry sills. Individual windows on the seventh floor, however, are smaller but are paired to reflect the ordering pattern of the lower floors. The tower has small square windows arranged vertically on its north facade, and is void of any architectural elements.

The idea to paint the tower came to Haas while working on another mural in New York City for the 42nd Street Development Corporation. Upon discovering that his present client also owned the Crossroads Building, Haas quickly convinced the organization to paint this building as well. Because it is located directly across from what had originally been the New York Times Tower (see Illustration 27a), Haas proposed to replicate the lost 1903 medieval style Times facade upon the Crossroads Building tower in commemoration of the Times Tower once being the tallest building in the world (see Illustration 27b).

Contract approval for the mural was obtained from the city and paid for by the 42nd Street Development Corporation, in addition to grant funding received from local banks. Yet, the six month - fifteen thousand dollar project did encounter some difficulties, eventually costing the "untimely" sign painters contracted to do the work, a great deal of money (see Illustration 27c). As evidence that the mural was well received by the general public, a gala lighting ceremony was held on its behalf, however, the painting remained mostly unnoticed by passersby because of its convincing appearance and placement so high above the busy intersection (see Illustration 27d and 27e). Within eight years after its completion, the elegant facades which were painted to endure decades of harsh

environmental exposure and urban pollution, was removed (suffering the same fate as its architectural prototype), a consequence of pending urban redevelopment.

By far the most impressive, and technically demanding, of Haas's work is the astonishing 1988 metamorphosis of the Tarrant County Civil Courts Building Annex designed by architect Watt C. Hendricks in 1958. Located at 100 North Houston Street, in Fort Worth, Texas, the building is a large, five story, steel post and beam structure with Indiana limestone panel cladding (see Illustration 28). A system of mechanically operated vertical metal louvers, extending from ground floor to roof, are intended to shade ulterior windows from direct sunlight. The only architectural aesthetic elements on the building's entire facade are four identical allegorical figures emblematic of justice.

Adjacent to the building is the city's red sandstone Renaissance Revival manner courthouse, designed in 1895 by Gunn & Curtis of Kansas City, Missouri (see again Illustration 28). The harsh urban presence created by the aesthetic dichotomy between these two buildings, compelled local philanthropist Sid Bass of the Sid Richardson Foundation to mitigate this situation using painted architecture. Having previously commissioned Haas to paint various buildings (owned by Bass) throughout the city, the Foundation hired the artist with only one stipulation. The annex building could not be physically altered, in order to insure possible re-interpretation in the future.

With structural design assistance from architect George C.T. Woo and Datum Engineering in Dallas, Texas, Haas not only virtually redesigned the entire building utilizing a system of pre-fabricated panels encasing the building, but also he painted architectural details strictly from

his own imagination (see Illustration 28a and 28b).⁹⁸ Rather than copying the architecture of the neighboring courthouse, Haas used painted elements that are complementary, including half-round columns at the main entrances, rusticated masonry pylons piers at the building's corners, and pedimented parapet walls (see again Illustration 28c).

Despite the new idealized addition to the cityscape, public reaction is surprisingly mixed. Many people welcomed the new more tranquil appearance of the Annex building. Former County Judge Roy English, quoted in the Forth Worth Star-Telegram, likened its previous modern look to a "space-age refrigerator." While others disdain it for covering up a significant part of Forth Worth's architectural history.⁹⁹ According to the city's Historic Preservation City Planner, Julia Hertenstein, says most residents agree (regardless of philosophical standpoint), that the 1.5 million dollar project maintains economic merit for being considerably less expensive than conventional renovation techniques or construction of a new courts building annex .

There are no clear cut principles or rules that direct Haas from project to project because he believes each is unique requiring its own solution.¹⁰⁰ Despite his attentive incorporation of indigenous fragments of urban environments and historical references, one personal canon remains constant:

*"What I am trying to do is to show what might have been or might be, what is plausible. I'm seldom interested in bringing anything back."*¹⁰¹

98 Architecture, November 1988, p. 90-91.

99 Ibid.

100 Telephone interview with Richard Haas, New York City, June 9, 1993.

101 AIA Journal, February 1978, p.45.

In spite of his intention to lock the paintings as tightly as possible into the surrounding architecture, every project involves a quality of ambiguity. As a necessary characteristic, Haas believes this will allow the viewer to bring his or her own fantasies and illusions to the work.¹⁰² As a result of these concepts, his work maintains an unyielding popularity, well combined with his personal interest in whimsy as an intrinsic by-product of painted architecture.

All the paintings chosen for use as case studies are composed of repeated architectural elements that reinforce the identity of the individual place. Whether it is through the ebullient use of decorative richness, commemorative relief, or simply historic insight, the murals quickly become landmarks. These methods are not intended to freeze a particular moment in time, but to aid in the perception of the evolution of place and promise for a continued functional use into the future.

¹⁰² Goldburger, Paul, intro. Richard Haas: An Architect of Illusion. (New York: Rizzoli, 1981). p.84.

CHAPTER THREE

Painted Architecture as a Preservation Alternative

The painter Georges Brague once said, "*a coffee spoon near a cup requires at once a different function when I place it between my heel and my shoe. It becomes a shoehorn.*"¹⁰³ The same can be said of painted architecture. When bound with no other purpose than to form the composition of a painting, the illusion merely serves a decorative effect. Yet when it is successfully integrated within an existing architectural scheme, painted architecture becomes more than an aesthetic device; it becomes a catalyst that fosters a greater sense of purpose for those who interact with it. The question now becomes how can the use of painted architecture benefit historic preservation? If painted architecture is to be used in this manner, its design must be developed in relation to the following criteria: historic documentation, building examination, and overall contextual setting. Though the case studies discussed in Chapter 2 were created as wall paintings and not as attempts at restoration, several of the cases that exhibit these criteria will be re-evaluated in order to assess the value of painted architecture as a preservation alternative.

HISTORIC DOCUMENTATION

When considering the use of painted architecture as a preservation alternative, sufficient historically documented evidence of the building to

¹⁰³ Arnheim, Rudolf. Visual Thinking. (Los Angeles: University of California Press, 1969), p.239.

be painted is the most influential design criterion. The Secretary of the Interior's Standards for Rehabilitation stresses the importance of identifying the historic character of the building in order to establish an accurate re-interpretation.¹⁰⁴ When a significant feature, one which helps to define historical character, is missing (for example, a principal facade or specific architectural element), it can be accurately recovered in form and indetailing through historical documentation. If adequate written, graphic, and photographic data exist, employing painted architecture techniques provides visual replication of the absent architectural feature, thereby retaining an implied historic interpretation.

Richard Haas's *Springer Building Mural* in Galveston, Texas, partially illustrates this concept (see again Illustration 26c). His research into the building's historical appearance yielded evidence that it was originally constructed as two separate structures. The use of historic photographs allowed Haas to re-interpret and respect general building forms in his mural design. Unfortunately, that was the extent of his findings. According to Peter Brink, the former executive director of the Galveston Historical Foundation, documentation consulted for the Springer Building was limited to two old photographs taken at distorted angles which proved to be insufficient in determining conclusive evidence of the building's original countenance.¹⁰⁵ These inconclusive data made all restorative attempts virtually impossible, therefore, the project goal

104 National Park Service. The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. (Washington D.C.: U.S. Government Printing Office, 1991), p. 9.

105 Telephone Interview with Peter Brink, Vice President, National Trust for Historic Preservation, Washington, D.C. April 13, 1994. The two forementioned photographs were not found upon an exhaustive search by the Rosenberg Library/Galveston & Texas Historical Center, and the Galveston Historical Foundation.

became more limited--that of achieving artistic visual coherency within the historic streetscape.

Extensive historic documentation regarding neighboring structures built during the same period was utilized by Haas (see again Illustration 26d). In combination with his conjectural artistic interpretation of late 18th century commercial architecture, Haas incorporated into the painting's design written information, drawings, and historical photographs used in recording dominant building material, color, and various architectural details. All of these strategies led to the creation of a convincing decorative painting that complements the shared fenestration pattern, polychromy, and scale of the historic district (see again Illustration 26c).

However, because of the amalgamation of the limited historical resources, the use of painted architecture in this case remains purely a decorative solution. If adequate documentation specific to the Springer Building existed, and was utilized independently, painted architecture would have acquired a meaning and purpose that it could never have had while viewed solely in its decorative manner. Architectural mode, construction, materials and ornamentation could then have been accurately transcribed and their relationship historically traced. Reasons for the prevalence of certain exhibited forms would be reinforced, creating an art no longer the product of imagination and fancy, but the more "natural" or purposeful outcome of originating ideas.

Haas's *Times Mural* in New York City also illustrates the use of historic documentation (see again Illustration 27d). Utilizing a variety of historic data, primarily photographs, Haas was able to replicate accurately the 1903 appearance of the New York Times Tower, located at 42nd Street and Broadway (see again Illustration 27b). The rounded-arched details

typical of the times, composed of sumptuous elements that Haas copied, references the past ornate terra cotta cast-work that once embellished what was briefly the tallest building in the world. Ornamental cresting along cornice lines and belt courses, elaborate moldings in high relief, basket-handle window hoods, and projecting balustrade window sills were all convincingly re-instated through painted architecture with the utmost fidelity to historical precedence.

In this situation, however, the painting was not executed on the actual Times Building but rather upon the Crossroads Building, located directly across the street. The Crossroads Building was then owned by the 42nd Street Development Corporation--a patron who had recently commissioned Haas to paint a decorative mural upon another building near the entrance of the Lincoln Tunnel at the intersection of Dryer Avenue and Forty-second Street¹⁰⁶. Immediately recognizing the professional opportunity and artistic exposure that the blank facades of the Crossroads building posed, Haas approached the owners asking to paint upon it a mural commemorating the Times Building prior to its being stripped of its architectural facades during the early 1960s. Fascinated with the original beauty of the Times Building, and consumed with the desire to familiarize all passersby with its past wonder, Haas unfortunately overlooked the chance to re-create the initial appearance of the Crossroads Building. Upon the acceptance of Haas's design proposal, original 1906 construction drawings (see Illustration 27f) for the Crossroads Building (then known as the Heidelberg Building) were found, but subsequently disregarded as Haas followed through with his design scheme instead.¹⁰⁷

¹⁰⁶ Goldburger, op. cit., p.93.

¹⁰⁷ Ibid.

Here again, the use of historical documentation pertaining to the specific building being painted was not used, resulting in a lack of credibility that could have been used to substantiate painted architecture as a practicable preservation alternative. If Haas had changed his design to reflect the original construction documentation of the Crossroads Building, painted architecture would have contributed to the chronicling of the building through a modern, yet historically accurate, re-creation of its intended appearance. Most importantly, the misleading historical appearance created by bestowing the false visual significance upon the Crossroads Building would have been avoided. The Crossroads Building did not possess the solitary architectural interest and magnitude of its historic neighbor, but did express a similarly important facet of early twentieth century commercial high-rise architecture--the continual prevalence of eclectic ornamentation. Furthermore, the new historically correct painting would have still served in commemoration, by illustrating the strong architectural design influence from the Times Building.

BUILDING EXAMINATION

Another influential criterion to be used when considering painted architecture within historic preservation is building examination. This criterion involves the study of the building's exterior in a manner that yields physical or visual evidence of past architectural features that define its historic character. This action not only contributes to the identification of the building's material, placement, color, and ornamental features needed to reinforce the proposed painting's design compatibility, but also

aids in determining the mode of painted architecture to be used, based on an accurate assessment of wall construction.

If the exterior construction material is sound and does not constitute historic character-defining significance, the wall can be painted directly by utilizing appropriate preparatory procedures required by the wall's physical composition. When exterior building fabric is unstable, or if the specific material and method of construction is historically significant, a non-detrimental intermediary painting surface (such as stucco, plaster, or canvas) can be incorporated to insure reversibility for future re-interpretation.

Richard Haas's *SoHo Mural* in New York City clearly illustrates this criterion when painted architecture is applied directly to a building's exterior wall surface. A cursory visual examination of the six-story, brick, cast-iron front structure primarily reveals three important features (see again Illustration 25a). First, the brick wall intended to receive the painting contains one wooden double-hung, two-over-two sash window with solid wooden shutters, on the fourth and fifth floors (see again Illustration 25). Being identical to the windows found on the main cast-iron facade (with the exception of the shutters), this evidence serves as an indication that at the time of the building's construction around 1865, this wall area was originally intended to be exposed. Second, the sixth floor wall area of the brick facade has been plastered and painted with several layers of paint. Based on the assumption that the wall was originally exposed, this wall area is the former site of painted advertisement. The second floor area below, is also heavily rendered with plaster and paint, yet it is also accompanied by a ghost roof and chimney outline with soot deposits located on the wall directly above it. This physical evidence

reveals the former existence of a two-story structure that adjoined this building at some point during its history, and reinforces the previous conclusions that this was originally an exterior wall.

The brief visual examination just completed, suggests that the brick wall was originally a secondary facade and does not exhibit an equivalent significance to its cast-iron front. However, a more in-depth physical analysis ought to be conducted to support this hypothesis. Since the brick wall does consist of sound construction material (of which approximately 50% of the original non-contributing surface is rendered), Haas's decision to paint directly upon the wall surface utilizing Kiem "Artist" technique A paints is valid as a preservation technique.

To insure a long life expectancy of the painting, proper preparatory procedures were followed by Haas. The wall had already suffered exposure to pollution and environmental conditions for many years. The initial step taken by Haas was to hire masons to remove and replace unstable brick substrate material, while repointing all mortar joints where necessary. Haas then selected professional sign painters to prepare the wall to receive the painting. The wall was cleaned with a bleach and water solution to eliminate mold, and with mild solvents to remove existing stains. Guttering, drain pipes, and exterior window shutters that were planned to be incorporated into the design were also defaced of dirt and primed bare. Afterwards, the entire wall was painted with a white polyvinyl acetate emulsion (PVA) to serve as a primer and adhesive surface for the applied paint (see Illustration 25b). Once this process is completed, the painting becomes an organic part of the wall, and the finished work visually contributes to the historic character of the building with a life expectancy of approximately fifty years.

In the case study involving Haas's *Tarrant County Courthouse Annex Mural* in Fort Worth, Texas, a substantial physical examination revealing esoteric evidence was unnecessary since the 1958 structure had maintained its original appearance. Instead, this example illustrates a more facial survey and the use of painted architecture when a building's surface cannot be painted on directly.

The Sid Richardson Foundation desperately wanted to make the modern Civil Courts Building (Annex) visually compatible to the neighboring 1895 courthouse, but realized that any physical alteration would be detrimental to the possible re-interpretation of the Annex. The organization decided to build a shell of synthetic stucco panels to encase, but not damage, the Annex (see again Illustration 28a). Next, Haas was commissioned to formulate a painted architectural design to be applied to this new outer building skin. In order to accomplish his task, Haas employed a detailed visual examination of the 1895 courthouse exterior as a means of gaining a better understanding of its architectural composition, and how best to translate its effigy unto the proposed Annex painting. His intention was not to copy the courthouse, as much as to design the painting based on the same stylistic and organizational principles (see again Illustration 28b).

The identification of basic architectural details and proportions expressed by the overall symbolic importance of the courthouse, was carefully studied in numerous drawings and thumb-nail sketches. The resulting design proposal was the manipulation of a different yet complementary, kind of painted architectural composition--one which helped to outline the historic character of the courthouse. The harmonious combination of the painting's trompe l'oeil arches, pilasters, occulettes,

medallions, and cornices, all products of Haas's imagination, would have been difficult to achieve without the prior informative visual reconnaissance survey.

Once this was achieved, architect George Woo and the Datum Engineering group, both of Dallas, Texas, translated Haas's painting into structural terms, determining how the mural should be attached to the walls of the Annex in the least physically detrimental manner. Given the monumental scale of the project, a steel framework, anchored at the ground and roof of the building, was suspended two feet out from the original Annex walls. Large panels made of a material called Dryvit, a mixture of plastic and cement that is receptive to applied pigment, were mechanically fastened to the framework serving as the substrate for the painting. Specified from the manufacturer in a color close in value to that of the courthouse, and in a variety of shapes, the Dryvit panels were positioned to allow daylight into every office interior of the Annex. The only vestige of the underlying Annex are four white, allegorical bas-relief figures depicting justice. Although this solution appears extreme, it successfully accomplishes the Foundation's goals of greater aesthetic harmony while catering to contemporary aesthetic needs to make visually coherent physical spaces.

CONTEXTUAL SETTING

The final design criterion to be used when considering painted architecture as a preservation alternative, is a site's contextual setting. This criterion is defined by the Secretary's Standards as an area or environment composed of important "elements" which formulates one's perception of

place.¹⁰⁸ These elements are expressed, first, in how buildings reflect the character of place; and second, in their of formal association assessed through the use of conventional building components. The former is facilitated by exhibiting similarities between the building and its locality in terms of physical characteristics such as size, shape, color, and so forth. The latter is facilitated by exhibiting formal associations between the building and its surroundings by using specific building components similar to those of the setting such as an arch, column, door, window, material. Both categories of elements serve to interpret the relationship of buildings to one another, creating the character of setting. The goal in utilizing this criterion is to identify the elements of the character of place and formal association, and then reflect them in the proposed painted architecture. It is through this idea that the completed painting can suit not only the individual building affected, but also the ideology of its environment as well.

Lisa Gold's emphasis on suiting the compositional nature of her *Ludlow Street Mural* in New York City to the existing physical characteristics of its setting, facilitates reflection on character of place (see again Illustration 22). In general, the setting consists of a narrow urban vehicular corridor lined with sidewalks and compressed on both sides by a continuous facade of unadorned four-story brick apartment buildings. The anonymity of individual structures is further substantiated by a unified fenestration pattern composed of segmented arched openings dotted with large masonry window sills and lintels. The character of place created by the exacting uniformity of color, size, form, and order of the buildings fostered the feeling of an uninterrupted flow of space throughout this area.

¹⁰⁸ National Park Service, op. cit., p.45.

In an effort to formulate a sense of neighborhood identity from similar adjacent streetscapes, Gold painted a new one story facade upon one of the plain brick tenements.

Since the buildings' rigid spatial ordering, size, and shape of its large openings left little room for creative alternatives, Gold had to incorporate these compositional traits into her design. In other words, she had to harmonize her own artistic ideas with the shared present physical attributes of the setting. For example, she maintains the building fenestration vocabulary of the area (the strict capitulation of window sill and lintel units), by adapting a similar painted effect (accentuating openings utilizing painted masonry surrounds) (see again Illustration 22a). One can also see another likeness in manner among the field color of the painting with that of the buildings (see again Illustration 22B). The strong color contrast between them is not complimentary, however, the painting's flesh-tone background serves to enunciate the white illusory architectural elements just like the dark brick field color of the buildings does to the white masonry window units (see again Illustration 22a). Though Gold's work introduces both color and stylistic painted features which are foreign to the established neighborhood setting, it is paradoxically how they are used that makes her painted architecture reflect the "spirit" of its place so well.

An emphasis on the role of formal association used as a design tool for achieving contextual "fitness" can be seen in Richard Haas's *Springer Building Mural* located in the Strand Historic District of Galveston, Texas (see again Illustration 26c). The setting consists mostly of low-scale warehouses and commercial buildings that date primarily from the 1870s to the 1880s (see Illustration 26e). With the exception of a few 20th century structures within the area that employ steel frame fabrication,

buildings are generally of masonry load-bearing construction. The conventional masonry construction unit is brick, although stone is used as a foundation material and occasionally as a decorative trim on principal building facades (see Illustration 26f). Secondary facades are stuccoed and sometimes, scored to resemble ashlar stone work. However, it is on the principal facades that most ornate architectural embellishment is bestowed.

Common identifying features of the Italianate manner structures include tall, slender openings; u-shaped hooded window crowns; and cornice lines dominated by large, heavily decorated brackets. The greatest difference among the Strand's buildings is found on store fronts, where variations in design and materials reflect efforts of several owners over the years to impose their tastes (see Illustration 26g). Here the combination of materials ranging from wood, granite, and cast-iron, installed during the 1870s to polychrome brick and terra cotta tiles of the 1880s, were fashioned into architectural components such as belt courses, columned bays, cornices, and elliptical-arch openings. While most of the buildings have cast-iron store fronts, complete cast-iron facades were never prolific in Galveston because of erosion from harsh weather conditions. In these structures, the metal was used merely as cladding to encase the structural ground-floor masonry piers while separate shop-molded pressed metal units were added to extend the quality of the store front to the upper masonry facade.¹⁰⁹

During the 1976 rehabilitation of the Strand, the Galveston Historical Foundation wanted to maintain the area's historic sense of place. They realized that if the centrally located Springer Building was to be included

¹⁰⁹ Johnson, LeRoy. ed. Handbook of Maintenance Techniques for Building Conservation in the Strand Historic District, Galveston, Texas. revised ed. (Austin, Texas: Texas Historical Commission, 1984), p.9.

in this effort, the commission of Haas's painted architecture was the only feasible way they were going to incorporate the building. In order to accomplish his task, Haas subdued his temptation to "over-design" the proposed painting with imaginary forms, and relied instead on replicating architectural features of neighboring structures. First of all, he mimicked the established fenestration pattern of the area by painting thin, two-over-two window sashes on the building's interior metal security louvers (see again Illustration 26b). In concert with this design decision, he reduced the dead wall space above the windows by imitating masonry window hood moldings that are so commonly found on surrounding facades. Furthermore, Haas simulated the existing polychromatic masonry materials of adjacent buildings, so that horizontal divisions of the painting appear to continue established cornice lines and details.

Despite the obvious success of the painting's visual assimilation, I think it would have been even more convincing if Haas had painted a brick pattern similar to Philip Jordan's Canterbury Ales Mural. While the present "stucco" look is justified, a technique such as Jordan's would have emphasized the area's conventional use of brick load-bearing construction.

Generally speaking, typical late 19th century three-story commercial structures on the Strand share a strong visual sense of verticality projected by dominant pilasters dividing the facade (see again Illustration 26c). Even those which do not have pilasters (see building to the extreme right of Springer Building in Illustration 26c), compensate for this by having tall elongated windows on its upper floors maintaining the same kind of visual perception. Yet, the three-story section of the Springer Building painted facade subtly counters these design concepts. Upon a closer look, one will notice an overbearing horizontality supported by numerous *trompe l'oeil*

belt courses, cornice lines, and continuous windows hood moldings that create optically a tenacious linear rhythmic pattern. This manifestation can be seen by placing one's thumb over the third floor wall area of the mural (see again Illustration 26c). In doing so, the aligned concatenation of architectural features across the entire Springer Building facade is augmented.

Although the unbroken painted cornice lines meet their built counterparts to foster an overall visual bond throughout the streetscape, "real" store front cornice lines are hyphenated by pilaster capitals. Here, the real capitals serve as ornamental broaches piercing the horizontal order of the cornice, physically linking the entire facade and thus achieving a hierarchical progression. Contrarily, this intentional 19th century architectural design characteristic appears to be out of the (aforementioned) sequence, when found on the second floor wall area of Haas's three-story painting. Lastly, Haas uses successive hood moldings above the ground floor openings of the two-story painting, although the design effect does not lend itself to the position of the vertical wall strips between the windows, as found on the upper floor. Instead, Haas could have introduced another kind of painted solution that would have compensated for the obvious change in the building's fenestration pattern, thereby complementing the building's physical character without radically changing, obscuring, or destroying the building's overall integrity.

BENEFITS

When the design criteria of historic documentation, building examination, and contextual setting are successfully integrated with the powerful visual manipulation of *trompe l'oeil*, painted architecture can offer advantages as a preservation alternative. Primarily, conservators and artists can work together by reproducing the image of lost architectural features of a past, richer environment while simultaneously preserving the art form's own historical legacy. While this approach does not constitute the physical and material duplication of the missing feature (which is usually most desirable), painted architecture does provide visual replication retaining an implied historic interpretation in the absence of a better, more complete method of restoration. A full inventory of all the roles painted architecture can play in historic preservation is virtually endless, but two prominent functions are evident: as a catalyst in acquiring a greater understanding of a society's built environment, and as a form of physical protection of the historic property without altering its historic interpretation.

Because painted architecture fosters a closer visual examination of its subject matter, this action therefore aids in the identification of building significance to its spectator. Initial curiosity may focus on the painting's technical execution, but inevitably leads to a more in-depth inquiry as the spectator's intentional quest to decipher illusion from reality unintentionally produces a broader understanding of what is being imitated. Such as the case with Philip Jordan's *Canterbury Ales Mural* in Huntington, Long Island (see again Illustration 23a). At first glance, the building's painted facade has the appearance of an ordinary brick wall. Yet, a closer

look provided by the skeptical eye of the spectator will reveal the varied tonality commonly found in brick construction that is often overlooked by passersby under ordinary circumstances. Other subtleties in the building's fabrication also become noticeable, such as the double soldier-course segmented arches located above each window opening. A similar effect can also be seen in Jordan's *U.S. Ambassador's residence Mural* in Paris. Here, the painted plaster-rendered wall surface successfully emulates the delicate luminosity and texture of the surrounding limestone, which promotes an excellent explanation for its vast popularity in the construction of such stately edifices of that period (see again Illustration 24e).

Notwithstanding, this consequential "enlightenment" is not entirely confined to the conveyance of a building's material. The spectator will invariably discover a broader understanding of the imitated architectural mode as well, when hunting for visual discrepancies between the painted and unpainted image. Richard Haas's *SoHo Mural* in New York City, for example, was applied directly to a rough brick party wall and cannot visually communicate the same polished "sense of material" as the painting's cast-iron counterpart (see again Illustration 25a). However, the painting incorporates the same maximum wall openings, incised decorative ornamentation, and horizontal tiers that are traits of typical 19th century cast-iron commercial architecture.

In terms of physical protection of the painted property, the Secretary of the Interior's Standards for Rehabilitation stresses proper building maintenance as the best method of preservation.¹¹⁰ This maintenance is an essential requirement of painted architecture as well, since the success of any painted illusion greatly depends on the care of its surface finish.

¹¹⁰ National Park Service, op. cit., p.12.

Therefore, the same necessary proprietorship demanded of painted architecture, as well as the historic building it is applied to, will customarily transcend from one to the other. When a painting is used as a long-term visual interpretative application, the maintenance required thereof can serve as a compatible preventive treatment against building material damage and loss, when practiced accordingly. To illustrate of this point, I will use masonry construction as an example. When cleaning a painting, a variety of solvents that do not deteriorate the colored work may be suitable. Yet, when that work is applied to a masonry wall, only selected chemical cleaners that do not create soluble salts (those which are hazardous to the masonry substrate) are to be used. Similar mindfulness is given when a painting is applied to an intermediary surface (i.e., stucco, plaster, or canvas). Though the historic fabric is not painted directly and the underlying material is well guarded against environmental exposure and pollution, residual chemical run-off of cleaning solvents onto unprotected areas is just as detrimental.

Before concluding, it is important to mention that painted architecture is certainly not a feasible alternative in every environment or situation. The effect of harsh climates comprised of extreme heat, moisture, salinity, and freeze-thaw cycles will contribute to the rapid deterioration of the painting as well as irreversible harm to its historic substrate. Although most modern media such as Kiem and acrylic emulsion paints are very durable in these adverse conditions (see Chapter 4), the longevity of the painting is affected. The typical 50 year life expectancy of these media under normal conditions becomes reduced significantly. In terms of a specific site or building, painted architecture should not be incorporated with building material that experience aging

processes from chemical causes (in other words, materials that will change in appearance because of a chemical reaction fostered by atmospheric conditions, oxidation, pollution, etc). The resulting protective patina produced by these building materials (such as copper) will create a visual dissonance between the pristine painting, and the unavoidable weathering of the material. If the material is cleaned incessantly, in hopes of resolving this aesthetic problem, the paradox is that cleaning makes the situation worse.

Despite these environmental and situational deterrents, painted architecture (when applicable), can serve as a visual restorative device as well as a manifesto, for it can fit perfectly into the original architect's vision, while aiding in the interpretation of his ideas. Painted architecture can become a coherent and constituent facet of the architectural space, providing access visibly to another dimension. How then can this art form be used to the benefit of historic preservation? The answer is simple. Painted architecture utilizes the optic gift provided by trompe l'oeil yet based on historic documentation, building examination, and contextual setting specific to the painted structure. In the aforementioned manner, it symbolizes a history that can still be accurately conveyed although original material, craftsmanship, and technology used to produce the building may be lost.

CHAPTER FOUR

Fabrication

To achieve desired appearances and levels of performance, many types of media and processes are available for creating architectural murals. The choice of media is often determined by the breath of color palette, practicality of execution, and the required maintenance. How a wall surface is painted depends primarily upon the degree of permanency involved in the employment of color attachment. While a complete summary of the various media describing distinguishing characteristics would be helpful, only a concise identification of applicable media, acknowledging individual advantages and disadvantages will be given in order to familiarize the reader with available techniques for exterior painting.

MEDIUMS

Identifying these media and understanding their usage, is essential to the overall success of the painting. Because there is a variety of names and types available, it is important to know what they are and how they are based, as defined individually by their perspective qualities. In this section, several kinds of media used in exterior painting will be considered: fresco, tempera, oil, silicate-based, and acrylic emulsion paints.

True fresco, or *fresco buono*, was considered by artists to be the ideal mode of wall painting, beginning around 200 B.C. The Italian term

refers to the execution of mural painting on freshly laid and still moist plaster.¹¹¹ As the color is applied, the water used as a binder absorbs carbonic acid from the air and undergoes a complex chemical change.¹¹² The result is a thin carbonate of lime crystalline film that forms on the wall surface, securing the imbued color.¹¹³ The desirable quality that *fresco buono* offers is a level of transparency and richness of color seldom equaled by other media.¹¹⁴ Also, the protective film can guard against exposure to wind, rain, and dust--adding to the painting's longevity. However, there are limitations imposed by this medium. Because true fresco can only be completed in sections, differences between wet and dry colors created difficulties in matching work from one day to the next.¹¹⁵ Any desired corrections or alterations involve eviscerating, re-plastering, and re-painting the relevant surfaces. Finally, the protective crystalline film created by the incurred chemical change, offers only a temporary shield to the color; and becomes extremely susceptible to deterioration once the film is disturbed.

Fresco secco refers to a similar process of painting on plaster walls, but in this mode the paint is applied to dry plaster walls.¹¹⁶ Unlike its counterpart, the pigments of *fresco secco* have a binder and the paint remains extraneous to the wall surface.¹¹⁷ Advantages provided by this method include less laborious alterations and a quicker, simpler process of

111 Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guption Publications, 1993), p.235.

112 Ibid., p. 235.

113 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.68.

114 Ibid., p. 67.

115 Jackson, H. Mural Painting. (New York: Charles Scribner's Sons, 1904), p.144.

116 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.72.

117 Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guption Publications, 1993), p.244.

execution. Unfortunately, *fresco secco* is subject to greater stresses than true fresco, since the colors employed suffer direct attack from wear and weathering because of its superficial quality.

Historically, both methods of *fresco* were used in exterior applications. Continuous exposure to abrasive environmental conditions destroys paintings' delicate surfaces,¹¹⁸ as such I discourage the use of these "traditional" modes because of the expensive time-consuming procedures required in the production and maintenance of *frescos*.

The term "tempera" is given to a frequently used emulsion medium in mural decoration.¹¹⁹ These types of paints consist of a mixture of oily and watery parts not unlike mixtures found in milk or eggs, adhering colors as a function of their glutinous natures.¹²⁰ Although there are many kinds of emulsions, the most frequently used variety is egg tempera¹²¹

Tempera was the common medium used to applying colors to ancient buildings and structures. In a paint analysis found in Hamilton Jackson's book Mural Painting, colored plaster fragments from Egypt, were discovered to have used wax in combination with substances derived from animal glue.¹²² Furthermore, Jackson's studies on ancient Greece illustrate how wax was used with odoriferous gums and substances thought to be vegetable, as a nonvolatile adhesive portion of the paint that attached color particles to the substrate of the painting.¹²³ During the Middle Ages, these materials were replaced with egg yolks (as a paint vehicle and binder), and diluted with either fig juice or wine as a type of paint thinner.

118 Ibid., p.235.

119 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.73.

120 Ibid., p.73.

121 Ibid., p.73.

122 Jackson, H. Mural Painting. (New York: Charles Scriber's Sons, 1904), p.69.

123 Ibid., p.69.

Tempera media used in wall painting are appreciated by artists for their luminosity, precision of tone, and form.¹²⁴ Although egg tempera is a relatively flexible medium when compared to other paints, blending of colors presents difficulties.¹²⁵ Tempera paints are delicate in nature and not resistant to environment conditions. While the paint is very durable and water-resistant once it dries, it is not water-proof.

Another process available is oil painting. Painting media that have an oil vehicle, are classified as oil paints. The properties of these paints usually consist of color pigment, binder, stabilizer, and drier. Linseed oil, the most common vehicle, constitutes five to ten per cent of the total liquid by volume.¹²⁶ Vehicle stabilizers aid in the dispersion of the color pigment and produce a desirable consistency across the range of hues most used by painters.¹²⁷ Driers are oil or resin additives that produce consistency in hue drying rates and can impart a rapid drying rate for the paint film.¹²⁸

Like true fresco, oil paints can be applied in one or several layers depending on the desired visual effects. Both techniques are applicable when utilizing exterior painted architecture. The Italian expression *alla prima*, or "at the first," refers to the first kind of technique, also called "direct painting"¹²⁹ that is the less commonly used method. In this technique, the application of broad shapes and hues are generally applied keeping definition of forms to a minimum. Work is completed in one

124 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.74.

125 Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guption Publications, 1993), p.212.

126 Ibid., p.191.

127 Ibid.

128 Ibid.

129 Ibid.

layer by daubs of paint used as final statements, no further manipulation is needed. "Indirect painting," viewed as the traditional technique by artists, utilizing various layers of opaque and transparent paints that result in a transcendental appearance of colors.

Because of its ease in handling, one may be lead to believe that illusionistic painting was made possible by the invention of oil paints.¹³⁰ The advantage offered by this medium is a blending of color which intensifies shadow and adds depth.¹³¹ A slow rate of drying also allows changes to be made to the image while enabling the rendering of smooth surface textures with a detailed finish.¹³²

Despite the many attributes and durability of oil paint as an exterior paint, I discourage its use as a decorative wall paint. Oil paints, when exposed to light, tend to darken and yellow over time.¹³³ The paint also acquires a "dusty" appearance as the oil is gradually absorbed into the wall.¹³⁴ Finally, serving as an impermeable surface coating, the oil mural is subject to blistering and detachment, resulting from trapped moisture in the wall. As a example of this situation, Leonardo da Vinci's *The Last Supper*, depicts how vulnerable oil paints can be under these circumstances even in the hands of a master painter.¹³⁵

Another, more contemporary media available to artists, are silicate-based or Keim paints. Noted for being extremely durable, Keim paints have established a reputation for being as permanent as the substrate it

130 Battersby, Martin. Trompe L'oeil. (New York: St. Martin's Press, 1974), p.21.

131 Ibid.

132 Ibid.

133 Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guipill Publications, 1993), p.191.

134 Feibusch, Hans. Mural Painting. (London: Adam & Charles Black, 1947), p.75.

135 Jackson, H. Mural Painting. (New York: Charles Scriber's Sons, 1904), p.137.

covers.¹³⁶ Produced around the end of the nineteenth century by Adolf Keim, and developed from an earlier process called stereochromy, silicate-based paints use was sought for their permanency as exterior paints.¹³⁷ Similar to *fresco*, this process saturates the rendered substrate to form an impregnable layer.¹³⁸ The Victorian-age Keim method involved a tedious process of wall preparation, paint ground, painting, and fixing.

During the wall preparation, unsound substrate material is removed and replaced with sound material. This preparation is followed by a thin application of coarse quartz sand, infusorial earth, and powdered marble in a four part mixture to one part of quicklime slaked with distilled water to insure paint adhesion to the wall.¹³⁹ Once the surface is dry, after nearly a year, the paint ground is laid on it. This ground is composed of a one-quarter inch deep layer of white quartz and marble sand with infusorial earth.¹⁴⁰ After several days, the resulting carbonate of lime film is removed and a hardening fluid is applied to the wall and is allowed to dry for twenty-four hours. In the meantime, colors to be used are pretreated with alkaline solutions.¹⁴¹ When the decorative painting is complete and dry, a German-derived fixing fluid is sprayed to the surface.¹⁴² This step is repeated twenty-four hours later in a more plentiful application.

The greatest advantage of Keim paints is their convenient use, that categorizes the medium into two groups: Keim "Artist" technique A and Keim technique B "Decor" paints. The former is available in pre-packaged

136 Seligman, Patricia. Painting Murals. (Cincinnati: North Light Books, 1988), p.39.

137 Jackson, H. Mural Painting. (New York: Charles Scriber's Sons, 1904), p.89.

138 Seligman, op. cit., p.39.

139 Jackson, op. cit., p.89.

140 Ibid. p.90.

141 Ibid. p.93.

142 Ibid. p.96.

kit form containing the paint and fixative in separate containers.¹⁴³ The chemical reaction caused by the combination of the medium with the rendered surface produces a silicate crystalline film that protects and maintains the color's vibrancy.¹⁴⁴ The resulting durable surface formed by the paint is porous and allows the substrate to breathe. Keim technique B "Decor" paints differ in that they are manufactured in powder form and are mixed with the fixative before application.¹⁴⁵

The obvious advantages of the contemporary modes include permeability, ease of application, and permanency, a combination of characteristics not offered by other media. Though permanency may be viewed by conservators as a drawback in some situations because of its irreversibility, the principle disadvantage to Keim is its cost, determined in large measure by project detail and size required. For example, Richard Haas's ornate *Times Building Mural* consisted of four walls, each approximately 35 feet by 200 feet, and cost \$60,000.¹⁴⁶ Yet, his monumental, five story *Tarrant County Civil Courts Building Mural* cost \$1.5 million --though it is considerably less elaborately detailed as the *Times Building Mural*.¹⁴⁷

Another contemporary medium that is available for exterior mural decoration are acrylic emulsion paints.¹⁴⁸ This type is very similar in nature to Keim paints by sharing equivocal advantages and disadvantages. The wall surface is primed with at least two coats of a polyvinyl acetate

¹⁴³ Seligman, Patricia. Painting Murals. (Cincinnati: North Light Books, 1988), p.39.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Fleming, Ronald L. 2nd. ed. Placemakers. (Boston: Harcourt Brace Jovanovich, 1987), p. 39.

¹⁴⁷ Ibid.

¹⁴⁸ Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guipill Publications, 1993), p.247.

emulsion (PVA) adhesive for those reasons: to protect the mural from alkaline constituents found in the masonry substrate;¹⁴⁹ to lessen the absorbency of the surface; and to allow permeability, so that the wall is to isolated from the painting as much as possible.¹⁵⁰ Because the paint is applied to the protective PVA layer, the arduous application of a ground layer is made unnecessary.¹⁵¹

The choice of a particular technique depends very much on a thorough understanding of the specific medium chosen. The lack of preparation, poor execution, and use of inferior materials, will lead to the rapid deterioration of the painted surface. Therefore, it is extremely important to investigate various media available before choosing a particular painting technique.

PROCEDURE

Given the brief history of painted architecture and an overview of applicable processes, the next factor addressed is one of suitable procedure for using painted architecture. Because painted architecture is going to be used as a method of intervention, the initial step of selecting an exterior wall area is pre-determined by the absent architectural feature to be imitated. Yet, in order to proceed in the most suitable manner, three important factors are to be considered: the physical character of the wall, the environment in which the painted surface is executed, and the cost of various media intended for use.

149 Ibid. p.246.

150 Ibid.

151 Ibid. p.248.

When the substrate of the wall does not constitute historic character-defining significance (see Chapter 3 under Building Examination), the wall may be painted directly. Although there are numerous types of paint presently utilized in exterior painted architecture, only certain types are recommended or application to particular material surfaces. Patricia Seligman, author of Painting Murals, provides an example of this idea by not recommending the application of silicate-based paints to brick walls because of its tendency to permanently imbue the brick when used without a sufficient undercoat. If either the specific building material or the method of wall construction used are historic features, a non-detrimental intermediary mural surface should be incorporated to insure reversibility and allow for future re-interpretation of the original building countenance. Again, the choice of paint medium is dictated by surface finish. In this situation, Seligman does not recommend using canvas (as the mural surface), if the painting is going to be completed using acrylic emulsion paints--since this kind of paint will readily deteriorate when applied to a flexible surface.

Another factor to be considered are the climatic conditions that will affect the painting. The most influential environmental element that accelerates the erosion of exterior painted works, is moisture. As it is nearly impossible to prevent water from entering wall constructions, or to control those forces drawing it inwards (such as pressure differential of air on both sides of the wall, capillary action, rising damp), the prevention of paint failure depends on eliminating the openings that allow moisture to enter. This is accomplished by good maintenance treatments to minimize the absorption of excessive water, but also by utilizing a paint media that will not seal the wall to the point that it cannot "breathe." In other words,

dampness within the wall must not be restricted from evaporating or vaporizing.¹⁵² The most popular media of paint available that provides for this requirement, are silicate-based paints (such as Kiem). These paints are porous, and allows the underlying building material to breathe. If the subject of durability against wetness is not a principal issue, other media (such as acrylic emulsion paints) are proven effective in countering harsh environmental elements like intense ultraviolet exposure and pollution.

Cost is an important factor when selecting a paint medium. Paints vary tremendously in price, based on their individual consistency and amount to be used. In terms of composition, better quality paints are usually most expensive, and may foster the urge to seek out less costly varieties. Manufacturers of cheaper paints (such as some oils and acrylics), economize pigment content and add more fillers in their paints--making them less durable. However, if the painting is to be used as a preservation alternative, durability is of primary concern. As for amount, most exterior mural paints come in tubes and jars ranging in size from 18 fluid ounces to 84 fluid ounces.¹⁵³ Considering the large areas usually covered by these paints, cost can become quite exorbitant. Still, some paints such as Kiem, are sold in powder form and can be mixed on site (with a fixative before application) in a way that will not jeopardize the required paint consistency, while saving the expense incurred by pre-mixed paints.

Once these factors have been considered and the medium is chosen by the person or organization interested in using painted architecture as a preservation alternative, the next step is the commission of a competent artist to do the job. Unfortunately, there is no singular or unanimously

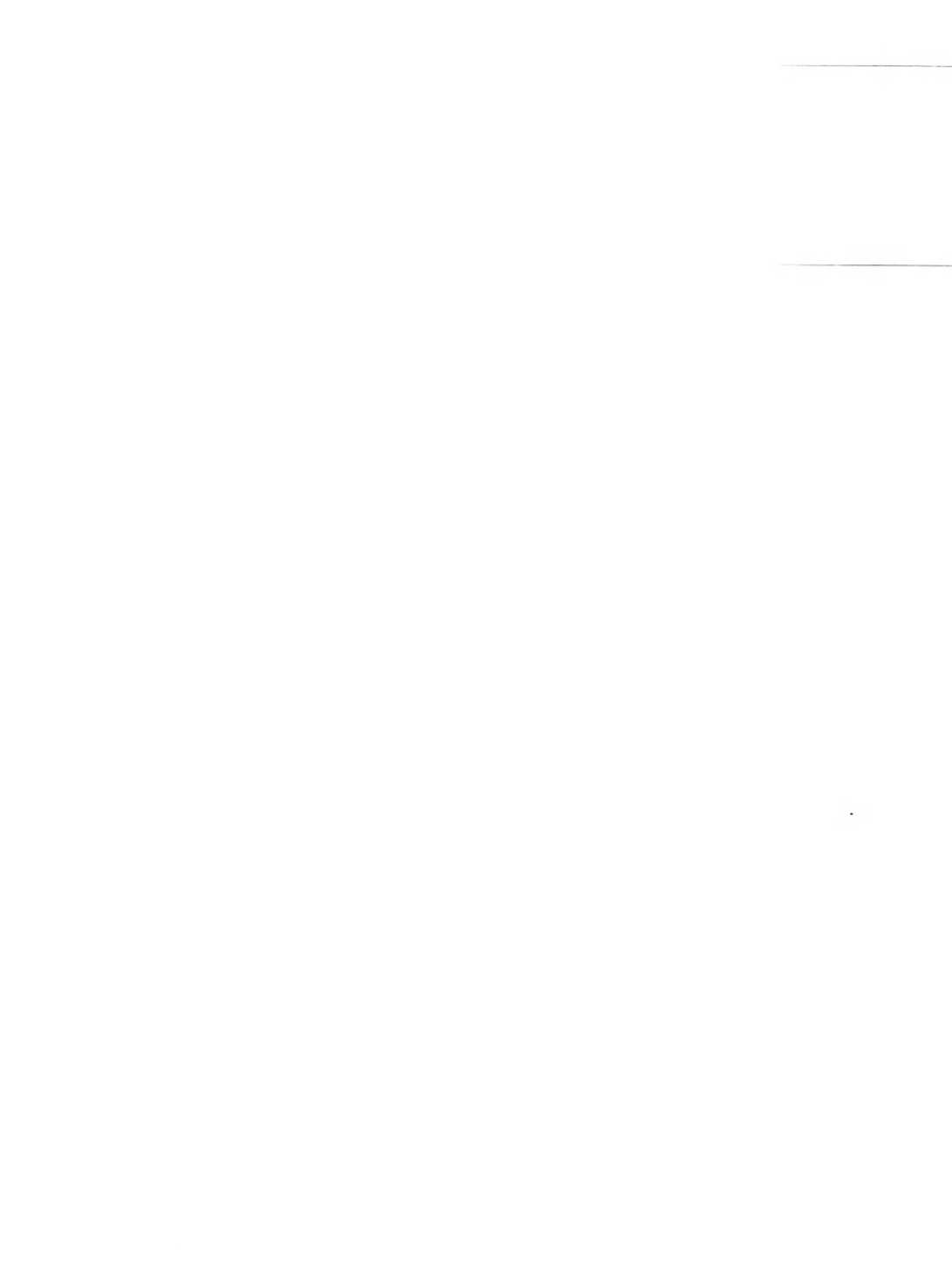
¹⁵² Johnson. op cit., p.13.

¹⁵³ Seligman. op. cit., p.39.

recognized procedure in the selection of an artist, despite the fact that this is the most influential decision of the entire aforementioned process.

The determining agent in the selection of an artist, is previous work experience and reputation. Since there is no organized association in which to consult regarding a particular artisan who specializes in painted architecture, experience and reputation become the only credentials to rely on. Unlike other professions, where one's competency is measured accordingly to the extent of his or her educational training in their respective field, most architectural painters today do not have a degree or background in architecture. In fact, having no degree in art or a related study is not uncommon for most artists. Often, many careers of these individuals began upon a simple self-recognition of their artistic potential--finely tuned over many years through experience.

This is not to imply that a "self-taught" painter is inferior to one with educational training, however, I think an professional instruction in art as well as architecture is essential when utilizing painted architecture as a preservation alternative. This type of background will empower the artist with a vocabulary and a level of technical aptitude that is substantial to the interchange of ideas among architects and conservators--whereas artists with other concentrations, are not as well informed in this area of expertise. I think viable explanation for Richard Haas's success in working with architects and building contractors during various projects (such as the *Tarrant County Civil Courts Building Mural*), is because of the education he received from the University of Milwaukee, where he earned a master of fine arts degree in 1964. Also important was his exposure to the architecture of Frank Lloyd Wright, while working at Taliesin for his



uncle who was Wright's chief stone mason.¹⁵⁴ Philip Jordan, who was trained at the Kansas City Art Institute, is equally skilled. Jordan put to use his educational background to work with an organized group of architects, painters, poets, and designers (called Poetic License), while completing the *U.S. Ambassador's residence Mural* as well as other paintings throughout Paris.¹⁵⁵

Subsequent steps by the chosen artist, in the proper procedure of utilizing painted architecture as a preservation alternative, involve the execution of the proposed painting--once sufficient documentation for the potential building affected has been studied. Fired by imagination and a desire to display the acquired wealth of information about the site, the painter should begin sketching suitable design concepts. The artist should make several personal visits to the site in order to examine the proposed work area. These visits will allow the artist to become "physically" acquainted with the building, taking in its proportions, form, scale, color and shadows. In addition, the visits will provide the artist with opportunities to photograph existing conditions. At this stage, a conscious effort on the part of the artist is required in order to avoid the temptation of exorbitant embellishment. Sometimes painters overdesign their work until emotional experience swallows original elements. Artists of exterior murals must remember two golden rules: their work is subservient to that of the original architects, and all new work is based on documented or existing physical evidence respecting buildings' histories.

When an acceptable final design is achieved, actual painting may begin using a smaller mechanically measured cartoon of the mural as a

¹⁵⁴ AIA Journal, February 1978, p.44.

¹⁵⁵ Grow, Lawrence. Architectural Painting. (New York: Rizzoli, 1986), p.82.

guide. Since artists develop their own techniques of painting, the author will not address this issue. However, artists may incur several problems resulting from the nature of exterior mural painting. These problems include, but are not limited to, the inconvenience of not being surrounded by one's studio paraphernalia, temperamental weather conditions, and continuous disturbances by loquacious admirers. These perceived hardships are quickly overlooked upon the completion of a successful mural. If well executed, the mural will possess a strong sense of realism, harmonious integration, and true beauty. When all of these principles are present, realism will serve to gain the spectator's attention, integration will maintain it, and beauty becomes the ability to visualize one's past.

CONSERVATION

How long will the exterior painted architectural mural last? The answer is dependent upon two factors: the prevailing social attitude of the time, and the technique used in executing the mural. In terms of technique, murals made with contemporary media, such as acrylic emulsion or silicate-based paints, can last for generations although subject to some forms of deterioration. The intent of this chapter is to identify briefly and then describe the attributing mechanisms.

Commonly conventional paints fail as a result of these problems: poor composition or surface preparation; chemical or mechanical incompatibility of different layers; and exposure to volatile environmental conditions.¹⁵⁶ When applied to masonry substrates, a primary cause of

¹⁵⁶ Matero, Frank. "Paints and Coatings". Weaver, Martin E. 2nd. ed. Conserving Buildings, A Guide to Techniques and Materials. (New York: John Wiley, 1993), p.222.

deterioration is the impermeable film of these paints. Water and water vapor, components of all masonry substrates, become trapped behind the paint film and contribute to paint failure resulting in peeling and blistering.¹⁵⁷ The neglect of this problem with moisture can ultimately lead to the general deterioration of the wall and loss of material.

Acrylic emulsion and silicate-based paints, used in the execution of painted architecture, do not experience most of these problems. The attentive surface treatments required in the use of these paints practically eliminates mechanisms initiated by poor wall preparation. Deterioration caused by incompatible paint stratigraphies is negated because of the compatible chemical composition used. Furthermore, both acrylic emulsion and silicate-based paints produce porous protective surface finishes.¹⁵⁸ The permeability they offer aids in the evaporation of water vapor from the masonry substrates. However, the porous protective films are subject to deterioration by extreme exposure to ultra-violet light and environmental pollutants.¹⁵⁹

Proper cleaning can insure the longevity of a mural. But the use of an inappropriate cleaning material or method can easily destroy the painting. While there are many solvents available for removing surface dirt, selection of a suitable medium depends on type and age of paint. Fortunately, exterior painted architecture seldom requires cleaning. If required, plain water or a gentle solvent will be sufficient.

¹⁵⁷ Ibid., p.222.

¹⁵⁸ Gottsegen, Mark D. The Painter's Handbook. (New York: Watson-Guptill Publications, 1993), p.246.

¹⁵⁹ Ibid., p.249.

CHAPTER FIVE

Painted Architecture Experimental Design Proposal

The reader can now view painted architecture in the proper context-- as a preservation design solution. This chapter will investigate the preservation needs of a historic building, and prescribe an exterior painted architectural preservation design in terms of: project goals and objectives, preservation approach, design concept, and technique/materials used, to accurately recover the historic character of the building.

The focus of this experimental design is the building located at 33 North 3rd Street in Philadelphia, Pennsylvania (see Illustration 29). Built around 1843 by an unknown architect, the five-story commercial brick building was originally clad in a brownstone veneer on its principal (west) facade. The first floor of this facade is divided into three bays: the center bay containing a large, paired one-over-one, wooden, double-hung sash; and two flanking bays each consisting of a six foot wide double door. Surmounting each opening in the bays is a semi-circular arch containing a large fanlight, with a shallow brownstone balconette supported by ornate brackets, transversing the facade. The vertical order of the facade that is established by the bays, is maintained by three tall, four-over-four, double-hung, wood sash windows on each floor. At the second floor level, window openings are 4' x 12', while third floor level openings are 3 1/2' x 12'. The remaining fenestration dimensions are 3 1/2' x 6', although six-over-six wood sash fill the fifth floor openings. Other architectural details include surface-recessed, arched vertical spandrels and rectangular,

horizontal spandrels outlining the window openings. The principal facade is terminated by an ornate brownstone cornice composed of a contiguous arch moulding.

The exposed brick walls of the building's north and south facades serve as party walls to the adjoining four story and three story structures. The north party wall of 33 North 3rd Street is visible at the ground floor level, because of a narrow passageway that channels through the adjoining structure. This nine foot wide covered alley is called Filbert Street, and provides vehicular access between 2nd and 3rd Streets. The brick rear (east) facade fronts another alley that is perpendicular to Filbert Street, window openings of various sizes are found. The building is capped by a low parapet, and a flat roof.

The goal of this experiment is to recreate visually the missing nineteenth century brownstone facade that has been lost because of physical alterations and environmental deterioration during the chronological evolution of the building. This particular building was selected primarily because of its location and construction.

33 North 3rd Street is located with Philadelphia's Old City District, which is listed on the National Register of Historic Places.¹⁶⁰ This area ranges approximately from Vine Street to Market Street, north to south respectively, and from Front Street to 5th Street, east to west (see Illustration 29b). As one of the city's largest and oldest collection of historic commercial buildings, many examples include ornate nineteenth century cast-iron and stone clad structures as well as several late eighteenth century brick buildings (see Illustration 29c). More specifically, the city

¹⁶⁰ Interview with Randal Beron, Preservation Planner, Philadelphia Historical Commission, Philadelphia, PA. November 8, 1993.

block that contains 33 North 3rd Street, is still predominantly composed of its original turn-of-the-century architecture. One notable vestige is the Merchant's National Bank (see Illustration 29d) located at 29 North 3rd Street--a massive, classically inspired granite edifice that is listed on the National Register of Historic Landmarks.¹⁶¹ There are also two late eighteenth century brick buildings within the block that adjoin 33 North 3rd Street (see again Illustration 29) . Although these structures are eligible for the National Register, they are not currently listed because of their poor condition.

The diverse architectural character of the District is slowly beginning to inspire preservation efforts by property owners who are interested in marketing their community to boost revenue. Unfortunately, many buildings (including 33 North 3rd Street) will not be properly restored because preservation is viewed by their owners as an impractical action, based on the economic unfeasibility of re-using the same construction material. Furthermore, although the District is a recognized historic area overall, many individual buildings are not viewed by the Philadelphia Historical Commission as being significant or historically contributing to the area--primarily because of their condition (including 33 North 3rd Street). Yet, by utilizing painted architecture, an accurate reinterpretation of these buildings' architectural significance can be restored, while re-establishing them as a visually contributing part of the District.

In terms of construction, 33 North 3rd Street may be one of the city's earliest structures built using brownstone as a surface finish. However, the building's street facade is in a rapid state of deterioration,

¹⁶¹ Ibid.

and immediate action must be taken to preserve it (see Illustration 29e). Despite the building's material instability, painted architecture is still a viable preservation alternative. Thereby, selecting this particular building for use in the experimental design, painted architecture will illustrate the advantage it has over physical material replacement in terms of being reversible, while demonstrating the ability to actively preserve the original substrate against further deterioration.

To approach this preservation project effectively, I implemented the painted architecture design criteria previously mentioned in Chapter Three (historic documentation, building examination, and contextual setting), which coincides with guidelines established by the Secretary of the Interior's Standards for Rehabilitation.

In terms of historic documentation, previously conducted research on the District overall, allowed me to appropriately evaluate subsequent information more specific to the building. The area is identified in several historic accounts as the financial and mercantile center of Philadelphia between 1795 and 1891.¹⁶² Many well-known businesses clustered in this area because of the nearby waterfront, and the Stock Exchange--a recognized site of the Government's early financial activities. The decorum fostered by this type of environment created a barrage of elaborate commercial architecture, as property owners competed for business by portraying the image of financial stability through an assumed character of permanency. For this reason, many early brick buildings within the area were replaced or modified by 1840, as more expensive

¹⁶² Perkins Collection, vol. 37. The Historical Society of Pennsylvania. (Philadelphia, Pennsylvania), p.74.

building materials (stone, marble, cast-iron) were incorporated into the setting.¹⁶³

This data reinforces more detailed research pertaining to 33 North 3rd Street I uncovered through deeds, photographs, architectural drawings and similar primary sources. According to a chain of title I completed for the property, the earliest recording described the site as "containing in front on 3rd Street twenty-one feet four inches and in depth ninety-five feet, and was conveyed to Samuel Burge in 1765," for an undisclosed reason and fee (see Appendix B). However, the citation does reference "appurtenances subject to the proportionate part of a yearly ground rent" which suggests the presence of a building on the site. Additional evidence is found in the will of Elizabeth Burges (Samuel's widow), dated June 12, 1794, that also describes a "messuage and lot of ground on the east side of 3rd Street; bounded to the north by a nine foot wide alley laid out for its use of this and two other messuages. . ." Furthermore, the will continues by mentioning a neighbor's construction of a new building over the nine foot wide alley.

There is no further record of the 33 North 3rd Street property until 1843, when Beulah Howell (the daughter of Samuel and Elizabeth Burges) conveys the "messuage and lot of ground. . ." to Joseph Lovering for the sum of twenty-three thousand dollars. Considering that the lot description remained unchanged, the high price of this transaction suggest an obvious improvement made to the property. Unfortunately, from 1843 until 1967, the property is bequeathed from one owner to the next, without a fee. Thereby, inhibiting me of making any possible fee comparisons that would narrow the speculations of when the existing building was constructed or

¹⁶³ Ibid.

modified. Surprisingly, when the property was sold to Sidney Segal in 1967, the value of this transaction is the same amount as in 1843 -- \$23,000. (See Appendix B). The final transaction involves the current owner, Han Kyung Chae, who purchased the property from the estate of Sidney Segal in 1989, for the sum of \$24,900.

In another effort to determine a construction date, city directories and fire insurance records were reviewed to establish a possible link with the individuals mentioned in the chain of title. Information in the directories was limited to addresses that corresponded with the chain of title, but no insurance records were found for the property.

Despite the limited amount of written information on the building, appropriate graphic documentation was retrieved to determine the building's original countenance. The earliest graphic evidence found was an engraving of the building by Charles Saint-Memin, dated 1801 (see Illustration 30). The engraving appears to be an accurate rendering, yet, there is some degree of uncertainty regarding the engraving's date. A handwritten note found on the archival copy serves to verify the drawing's execution. The year does coincide with the time Saint-Memin lived in Philadelphia before returning to France in 1810, but the architectural detailing of the building's elaborate cornice and bracketed balconette implies a much later building construction date -- post 1840.

Although there is some doubt regarding the actual construction date and minor inconsistencies in the building's depiction over time, the building's original countenance can be replicated. For instance, when comparing the 1801 engraving to a 1860 Baxter Business Directory image (see Illustration 30a), the only minor difference between them is the type of window sash depicted. The same is true when the images of the

windows are compared to the 1929 photograph of the building (see Illustration 30b). The most significant alteration to 33 North 3rd Street is evident in the 1960 photograph (see Illustration 30c) that reveals an obvious application of a stucco-like surface finish over the brownstone facade. While most of the architectural details are covered, most of the original features can be recognized.

There is no documentary evidence for the drastic alteration. However, based on the type of material used in the building's construction, I have formed my own hypothesis. The building's brownstone facade is a sedimentary stone composed as a stratified mass in which its layers are subject to delamination depending on the grade of stone or the exposure to harsh environmental conditions. The owner most likely used the stucco-like "treatment" in an attempt to re-consolidate the brownstone material and achieve an aesthetic unity on the building facade.

With a greater understanding of the building's appearance, the next step was to examine the building's exterior in order to yield physical or visual evidence to support my research. Based on an accurate assessment of the wall construction, an examination of the building's exterior would serve two purposes: to confirm construction material, color, and an existence of ornamental features identified earlier; and to serve as the ground work for determining the mode of painted architecture to be used in this experiment.

Field reconnaissance of 33 North 33rd Street illustrated the existing conditions in relation to the historic conditions. While the overall historic fabric and surfaces had deteriorated over time, much of the damage remained on the main (west) facade (see again Illustration 29e). Lack of routine maintenance and subsequent water infiltration caused significant

deterioration of the stucco finish, in addition to the deterioration of the underlying brownstone.

Lost material and types of deterioration were identified in categories, ranging from major losses (spalling and delamination), to minor surface losses (surface efflorescence). Apparently, as the protective stucco surface began to fail, water penetration contributed to a freeze-thaw process that accelerated the deterioration. In addition, portions of the brownstone substrate were removed by the delaminating stucco, thus exposing the stratified stone to a further erosion process. Other kinds of building material failure included peeling paint on window sashes, broken or cracked panes, and rotting wood window frames.

Despite several attempts to gain access to the building's upper level interiors, in order to inspect its brick party walls, my request were denied by the owner for safety reasons. This inspection would have provided physical evidence to determine if the original building was altered or if the existing structure was the result of a single construction. Evidence of an altered original building would have been identified through the presence of roof end rafters left in the wall, or in the presence of a roof outline. Evidence supporting a single construction would have been materially uniform walls. After evaluating the physical status of 33 North 3rd Street, the final step used in my preservation approach was to assess the building's contextual setting. The goal was to formulate how neighborhood buildings reflected the historical character of the District, and to identify the shared traits of formal association among the buildings. The historic character of the District consists of narrow streets lined with sidewalks and contiguous building facades of varied heights and utilizing various materials. The most outstanding feature of this area is the strong sense of

individuality expressed by each structure. In this manner, 33 North 3rd Street is analogous to the surrounding buildings--creating a panorama of uninhibited color, form, and order of architecture when viewed collectively.

In the attempt to identify formal associations between 33 North 3rd Street and its architectural surroundings--a correlation was discovered despite of their expressed individuality. Common identifying features among the majority of these nineteenth century commercial buildings include tall, slender openings, strong sense of verticality, surface-recessed portions of the facades and a varying degree of detailed ornamentation. However, the greatest shared similarity among the buildings are the storefronts, where large, cordial openings dictate the order of the upper fenestration patterns (see again Illustration 29c). Although specific architectural detail differs from building to building, storefront cornices are maintained which fosters a strong sense of coherency.

The design concept of this experiment involves the painted replication of the building's brownstone facade upon an intermediary surface. By utilizing this concept, it preserves the historic underlying material for future re-interpretation. Painted architecture could have been utilized as a permanent preservation solution by physically removing the building's deteriorated surface, and painting an image directly upon the unstable material substrate. Yet, this alternative is in contraction to the Secretary of the Interior's guidelines for utilizing the least destructive rehabilitation means as possible. Instead, I determined that if the historic fabric could be stabilized (based upon physical examination), the facade would be encased by an applied, non-destructive and protective surface on which a painted facsimile of the underlying facade could be employed. As

a type of temporary preservation undertaking, this technique would: satisfy the Secretary Standards; maintain reversibility for future re-interpretation; and re-establish the building as a contributing part of its historic district.

Similar in execution to that observed in the *Tarrant County Courthouse Annex Mural* case study in Chapter Two, this experimental design would use the same material (Dryvit) as the intermediary paint surface. Technical questions relating to design feasibility and construction, were addressed to the Dryvit manufacturer and several structural engineers. As a suitable solution, I discovered that Dryvit is a lightweight, and durable synthetic stucco panel system designed especially to be used as an exterior insulation and surface finish. The strongest advantages offered by Dryvit are the cost-effectiveness and energy-efficiency of using this material as an alternative to conventional construction methods involving many retrofit projects.

Given the unstable condition of the brownstone, it was determined that the Dryvit panels would be installed directly to the stone, utilizing mechanical fasteners (masonry screws) of the appropriate length. Although suspending the panels away from the facade (as practiced in the aforementioned case study) would have the least physical impact to the brownstone, the void-to-surface of the building elevation prevented this option. However, the stone would incur very little damage by the direct application of the Dryvit, based on the size and spacing of the holes required (see Appendix C). As soon as an efficient panel facade configuration was recommended by the structural engineer, the Dryvit could be fabricated very close in color to the stone, and installed within several weeks (this may vary depending on panel size needed for each

project). Once retrofitting of the facade is complete, the Dryvit panels can be painted.

The paint medium I chose for use was Kiem "Decor" technique B paint, for reasons based on its utility and durability. Unlike pre-mixed paints, Kiem "Decor" technique B paints are manufactured in a powder form, allowing the artist greater ability to alter its formula in order to achieve a specific color value. The endurance of Keim paint is provided by the silicate crystalline film that protects and maintains the mural image against environmental attack.

Using the forementioned technique and materials, I visually replicated an accurate, detailed re-interpretation of the building's brownstone facade based upon the findings of my previous historic research (see Illustration 31 and 31a). In the treatment of this building, a particular philosophy of preservation is presented. Although the solution of this experimental design utilizing painted architecture is anomalous, the preservation approach is traditional--illustrated by identifying the building's historic character-defining features, preserving those features by using a non-destructive and protective surface on which to paint, and the desire to retain the overall reversibility of this interventive technique. The result of this project restores the underutilized building to a state of contemporary, while preserving that portion of the property which is significant to its historic, architectural, and cultural values.

CHAPTER SIX

Conclusion

Painted architecture has a strange attraction that is difficult to pinpoint. Whether it is used to puzzle, mystify, or entertain, this art form has fascinated people throughout history.

The faux finishes of Egypt depict a practical, yet creative culture that espoused an implausible grandeur, feasibly. Classical schemes illustrates the collective cognitive state of that era, and the willingness to test perceptions of reality. The illusionistic work of the Roman Empire is representative of a divined commonwealth and of imperial houses, while Renaissance techniques exhibit those culture's quests for harmonious coherence. Even following a long period of little use, trompe l'oeil continues to express the prevailing social contexts, variations in style, and advancements in building technology. This tradition can be carried forward by the use of architectural trompe l'oeil as a preservation alternative.

When the authentic is inaccessible, we can create an illusion by utilizing the magnificent technique of painted architecture. If properly executed, painted architecture does more than simply fill in the voids of a spotted vernacular; it establishes landmarks by: reinforcing the identity of the neighborhood, aiding in the perception of the evolution of place, and assuring a building's continued use well into the future.

More specifically, painted architecture serves as an offensive and defensive maneuver within historic preservation. As an offensive strategy,

its use requires the artist or observer to examine the building or site more closely, looking at the building's architectural organization, mode, or construction in a way that deepens understanding and appreciation of mankind's built environment.

When viewed as a defensive measure, painted architecture primarily serves to retain the building's historic interpretation through visual replication. Thereby, conveying unto painted architecture the ability to offer the most levels of arbitration, in accordance with governmental standards for rehabilitation, depending upon the technique utilized. Levels of intervention that were once thought to be physically impossible without diminishing, altering, or destroying historic character are now easily attainable while original building integrity is maintained. Furthermore, whether the painting is applied directly to the historic edifice or to a system of painted pre-fabricated panels encasing the building, painted architecture protects the underlying historic fabric until it can be physically restored. Consequently, painting murals instill a sense of proprietorship that assures protection against further deterioration, usually caused by neglect.

It is unknown whether painted architecture influences the views of a built environment, or if architectural changes have brought fresh ideas into painting. At any rate, the two forms of art speak the same language (in terms of composition, scale and so forth), and when they are united, achieve splendid visual results. Instead of being limited to the illusory grandeur that it brings to architecture, the painting can also serve as a functional adjunct of existing themes in the optical abolition of physical barriers created by blank walls found in ordinary building construction. The result is the marriage of all parts of the building, in concert with a powerful display of visual manipulation. Thereby, continuing painted

architecture's historic utilitarian legacy which Serlio noted, ". . . *for by acting this way one does not disrupt the order, one proceeds to paint reality and reinforces the decoration.*" ¹⁶⁴

Yet if painted architecture is a sub-category of an illusory art intended to "trick the eye," how can its use be entrusted with conveying the appropriate historic interpretation of a rich architectural heritage? Since the painted image is often a replication of a real part of a familiar world, to be convincing, the imitated appearance must be as accurate as the "reality." Therefore, the "trick" is not the image itself, but only perception of the painted subject as three-dimensional.

The same attention to the uses of *trompe l'oeil* is applicable to architecture. If a historic architectural feature does not have a physical reference or no longer exists itself, the illusion is based on documented data, building evaluation, and contextual assessment, giving painted architecture authenticity as a preservation alternative.

The objective or aim of the painted architecture is to suggest intentionally a particular moment in time. Not particularly the "time" of the building, because the painting's contemporary method of execution prevents this idea, rather the "time" of the observers' initial glimpses, exhibiting the power of logical manipulation confounded by suspicions against the viewer's own senses. When this situation is inevitably coupled with the painting's strong contextual unity, the result is a pleasing sense of the past, an inherent curiosity of the present, and whimsical reverie about the future. With so many tremendous aesthetic and "functional"

¹⁶⁴ Serlio quoted by Milman, Miriam. Trompe L'oeil Painted Architecture. (New York: Rizzoli International Publications, Inc., 1986), p.50.

possibilities offered by the use of painted architecture, it is certainly worthy of induction to the field of historic preservation.

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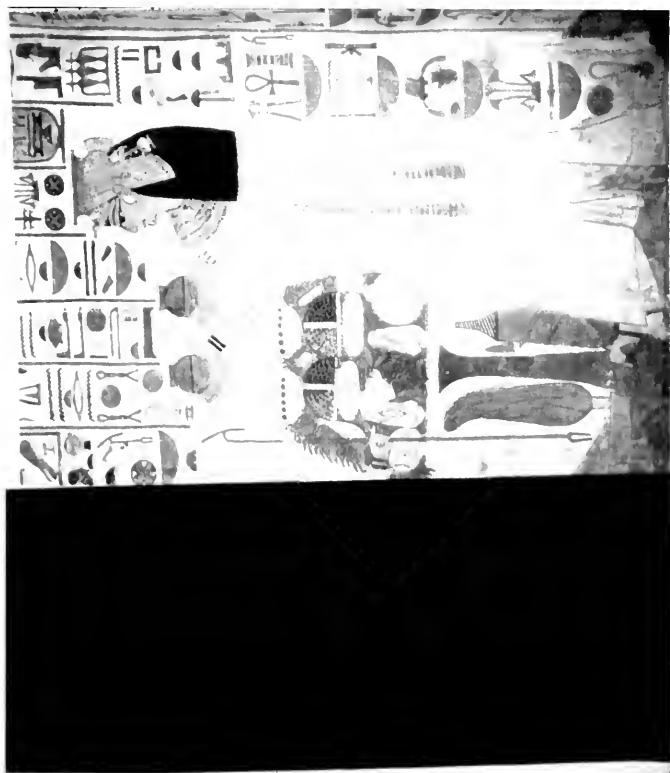


Illustration 1: Wall painting in the tomb of Nefertiti, Southwest Theban necropolis in Valley of the Queens, Egypt. From Miguel A. Corzo, ed. *Wall Paintings of the Tomb of Nefertiti*, (Cairo, Egypt: The Egyptian Antiquities Organization, 1987), 8.

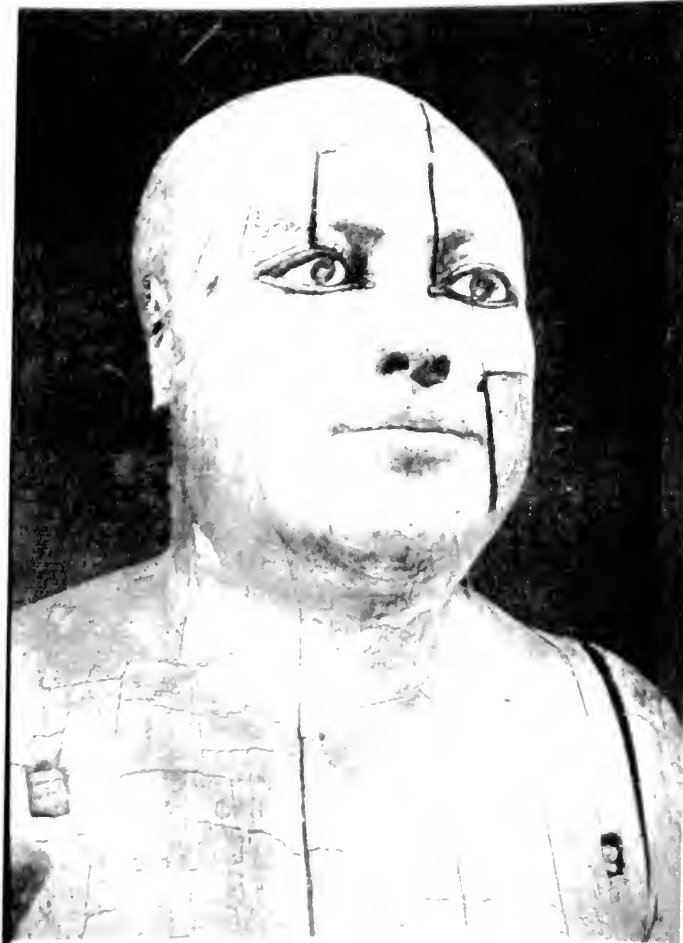


Illustration 1a: "Sheikh el-Beled" - wooden statue of a cheif ritualist named Kaaper who lived either at the end of the Fourth, or beginning of the Fifth Century. From Jean-Pierre Carteggiani, *The Egypt of the Pharaohs*, (London: Scala Publications, 1986), 49.

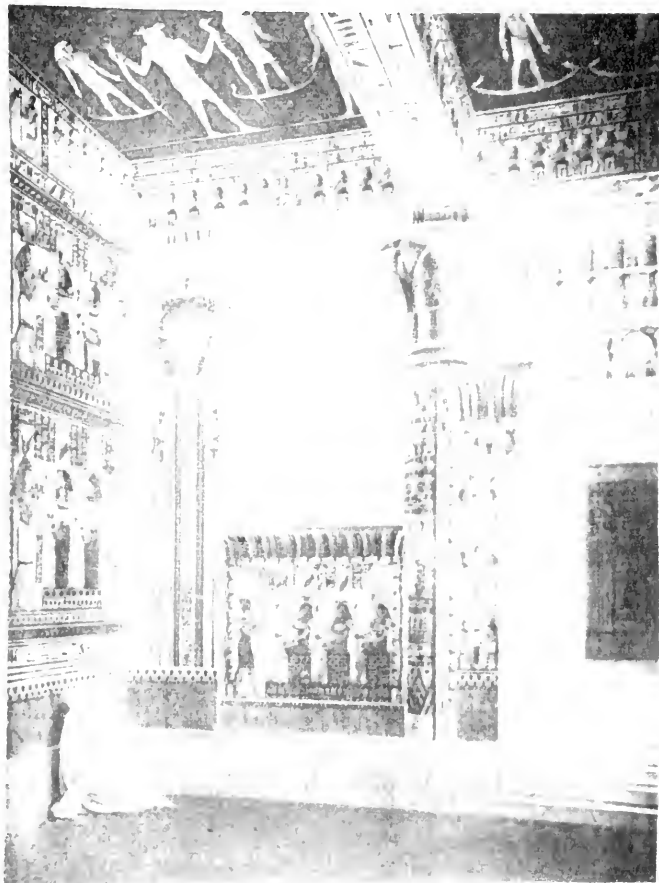


Illustration 1b: Interior of the Temple of Hathor, Thebes (Menonum), Egypt, circa 1809. From Charles C. Gillispie and Michael Dewachter, *Monuments of Egypt - The Napolenic Edition*, vol. II (New Jersey: Princeton Architectural Press, 1987), Pl. 37.

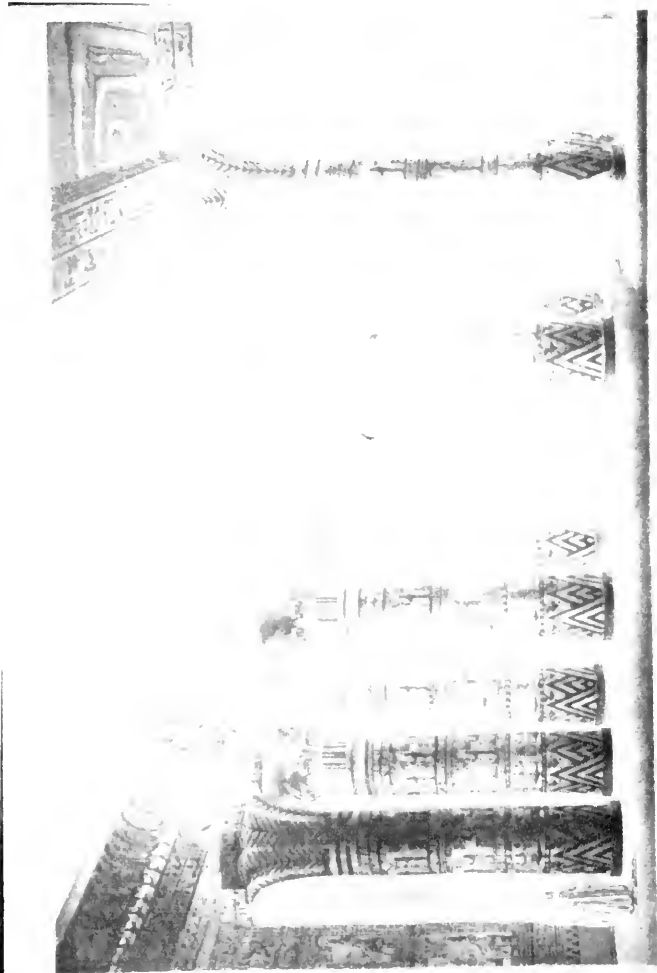


Illustration 1c: View of the hypostyle of the main temple, Isle of Philae, Egypt. From Charles C. Gillispie and Michael Dewachter, *Monuments of Egypt - The Napoleonic Edition*, vol. I (New Jersey: Princeton Architectural Press, 1987), Pl. 18.



Illustration 1d: 1838 oil painting by David Roberts of general view of the island of Philae (general view), Nubia. From Peter Clayton, *The Rediscovery of Ancient Egypt*, (New York: Thames & Hudson, 1982), 157.



Illustration 2: First Style decoration, Samnite House, Herculaneum. From Jacqueline and Maurice Guillaud, *Frescoes in the Time of Pompeii*, (Paris: Clarkson Potter, Inc., 1990), 39.



Illustration 2a: Second Style decoration, Villa of the Mysteries, Pompeii, circa 1st century B.C. From Jacqueline and Maurice Guillaud, *Frescoes in the Time of Pompeii*, (Paris: Clarkson Potter, Inc., 1990), 40.



Illustration 2b: Third Style decoration with monochrome landscape from Pompeii. From Jacqueline and Maurice Guillaud, *Frescoes in the Time of Pompeii*, (Paris: Clarkson Potter, Inc., 1990), 41.

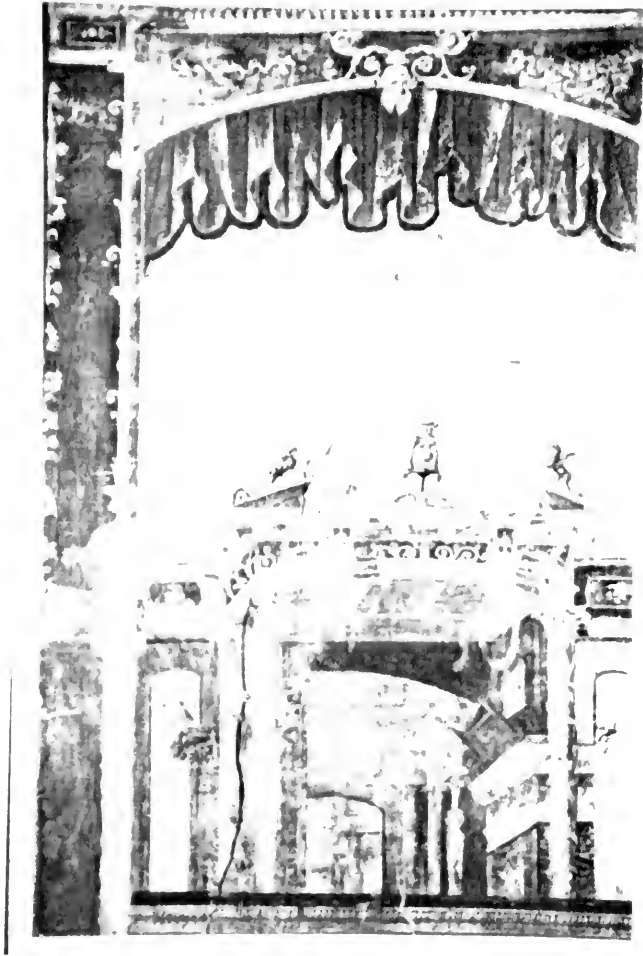


Illustration 2c: Fourth Style decoration from Herculaneum, 79 A.D. From Jacqueline and Maurice Guillaud, *Frescoes in the Time of Pompeii*, (Paris: Clarkson Potter, Inc., 1990), 48.



Illustration 2d: Deteriated exterior First Style decoration in Pompeii.
From Sharon Cather, ed. *The Conservation of Wall Paintings*, (London:
The Getty Conservation Institute, 1991), 43.



Illustration 3: Unknown artist. "Enthroned Madonna and child," painted during the 13th century. From Bernard Meyers, *Encyclopedia of Painting*, (New York: Crown Publishers, Inc., 1955), 63.



Illustration 4: "La Nascita Della Madonna," painted by Giotto from 1304-1306. From Giancarlo Vigorelli, *L'opera Completa di Giotto*, (Milan: Rizzoli, 1977), Pl. 19.

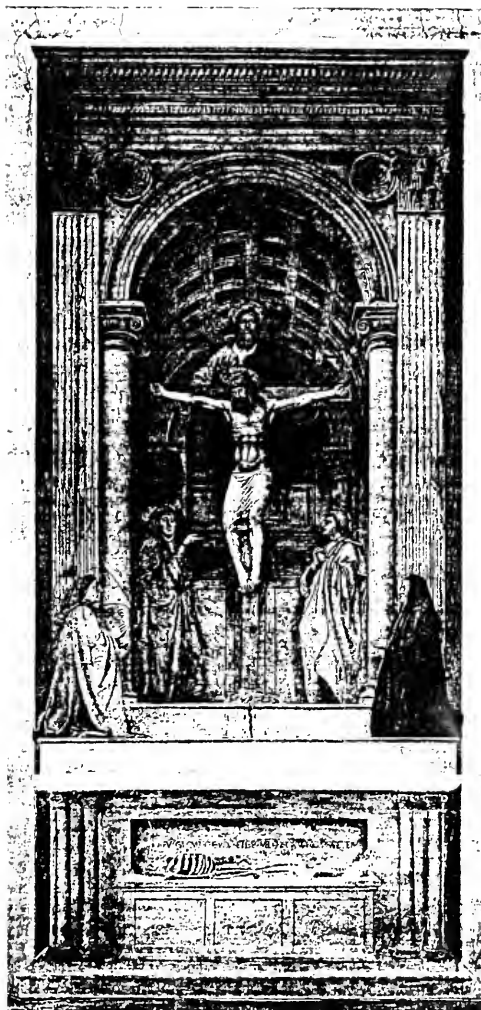


Illustration 5: "Holy Trinity," painted by Masaccio, circa 1427. From Eve Borsook, *The Mural Painters of Tuscany from Cimabue to Andrea del Sarto*, (Oxford: Clarendon Press, 1980), Pl 73.



Illustration 6: "Last Judgement," painted by Michaelangelo, circa 1536. From *National Geographic*, vol. 185, no. 5 (May 1985), 102.

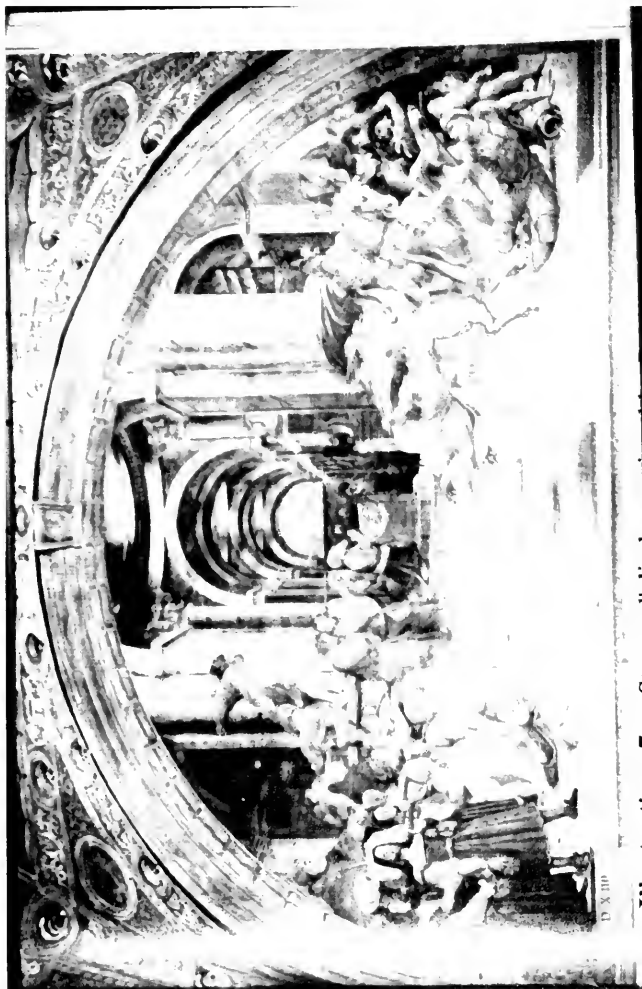


Illustration 7: Stanza d'eliodoro painted by Raphael, circa 1512. From Roger Jones and Nicholas Penny, *Raphael*, (New Haven: Yale University Press, 1983), 119.

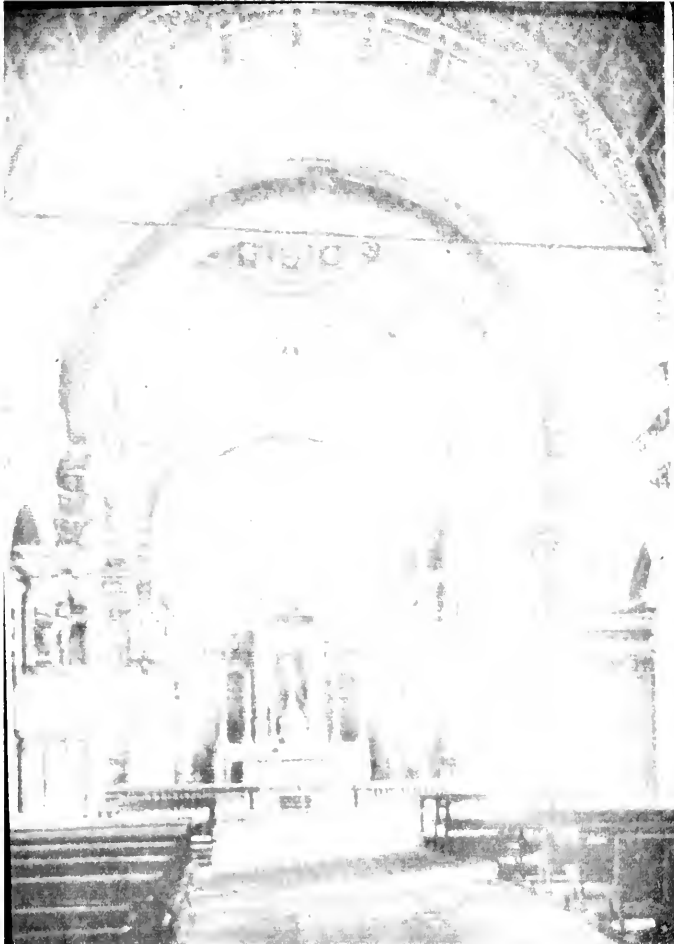


Illustration 8: Illusionistic apse painted Bramante located in S. Maria presso S. Satiro, Milan, circa 1480. From M.L. d'Otrange Mastai, *Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism*, (New York: Abaaris Books, 1975), 142.

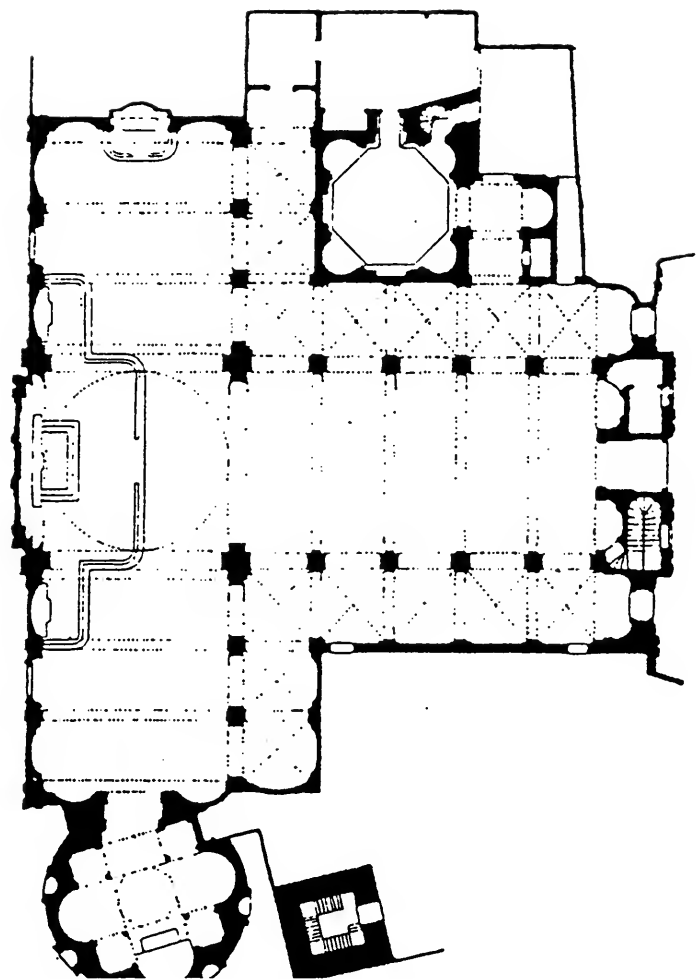


Illustration 8a: Plan of S. Maria presso S. Satiro. From M.L. d'Otrange Mastai, *Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism*, (New York: Abaaris Books, 1975), 132.



Illustration 9: Hall of Columns, painted by Peruzzi in the Villa della Farnesina, Rome, circa 1516. From M.L. d'Otrange Mastai, *Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism*, (New York: Abaaris Books, 1975), 115.



Illustration 10: Palazzo Lancellotti ai Coronari, painted by Tassi, Rome, circa 1617. From Miriam Milman, *Trompe L'oeil Painted Architecture*, (New York: Rizzoli International Publications, Inc., 1986), 27.



Illustration 11: The Heaven Room at Burghley House in Lincolnshire, England, painted by Verrio, circa 1695. From Patricia Seligman, *Painting Murals*, (Cincinnati: North Light Books, 1988), 8.



Illustration 12: Palazzo della Signoria (Palazzo Vecchio) in Florence, painted by an unknown artist, circa 1562. From Miriam Milman, *Trompe L'oeil Painted Architecture*, (New York: Rizzoli International Publications, Inc., 1986), 26.

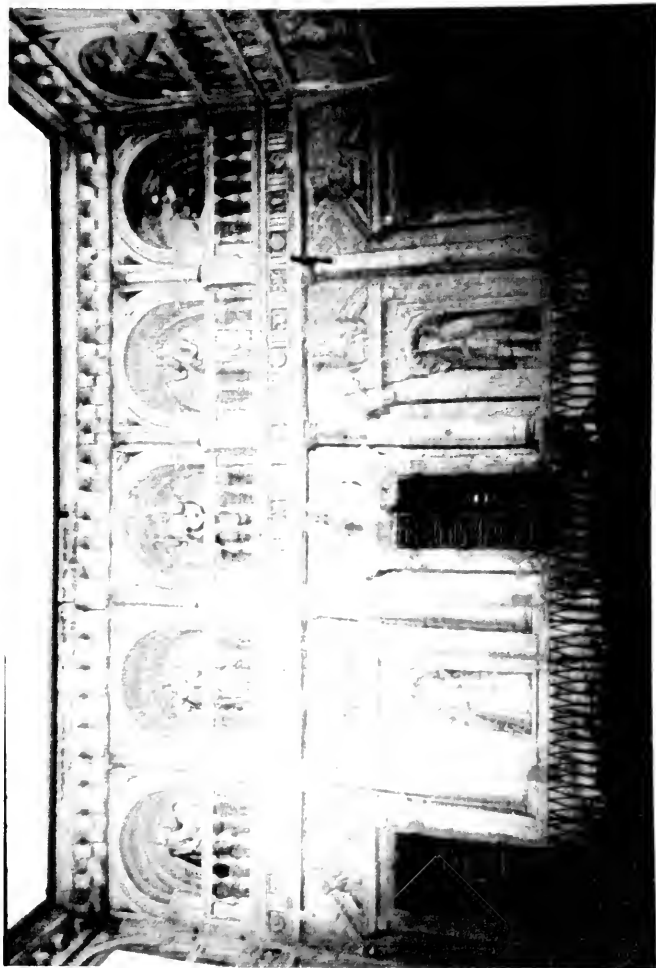


Illustration 13: A painted courtyard wall at the Castle of Maresco, near Saluzzo (Piedmont), by Costanzo Arbaudi and Francesco, circa 1613. From Miriam Milman, *Trompe L'oeil Painted Architecture*, (New York: Rizzoli International Publications, Inc., 1986), 68.

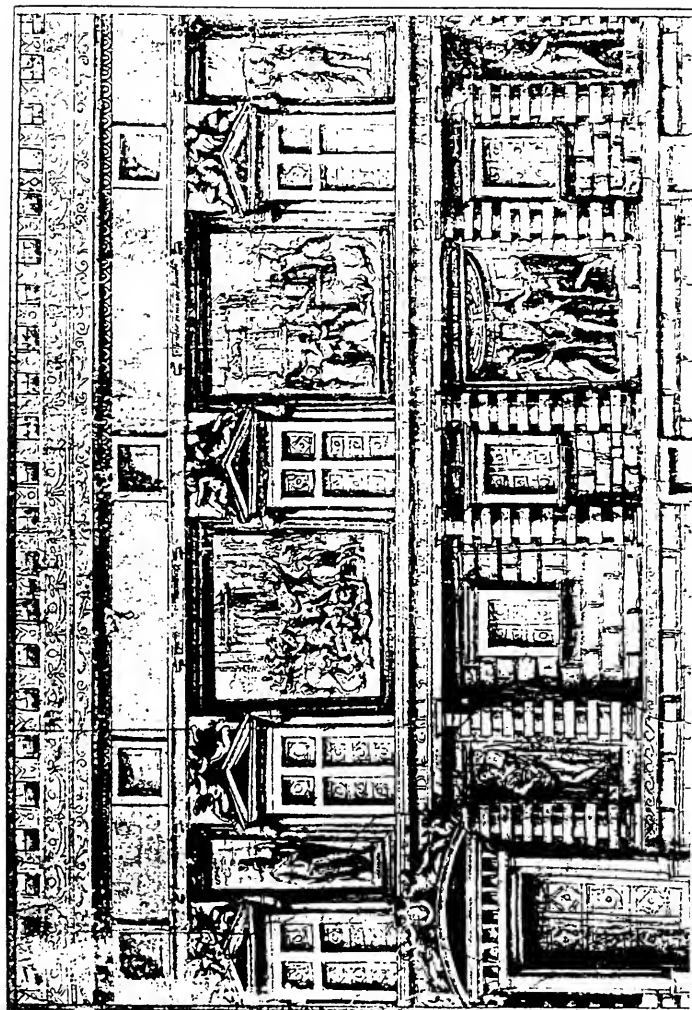


Illustration 14: Drawing for the north facade of Palazzo Doria, by Vega, circa mid-17th century. From Miriam Milman, *Trompe L'oeil Painted Architecture*, (New York: Rizzoli International Publications, Inc., 1986), 48.

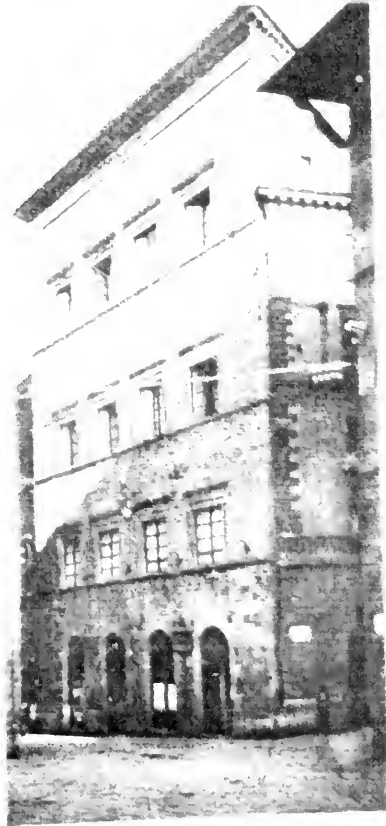


Illustration 15: "Casa dei Borghesi," in Siena, Italy by an unknown architect, circa mid-16th century. From Erwin Panofsky, *Meaning in the Visual Arts* (New York: Doubleday Anchor Books, 1955), Pl. 60.

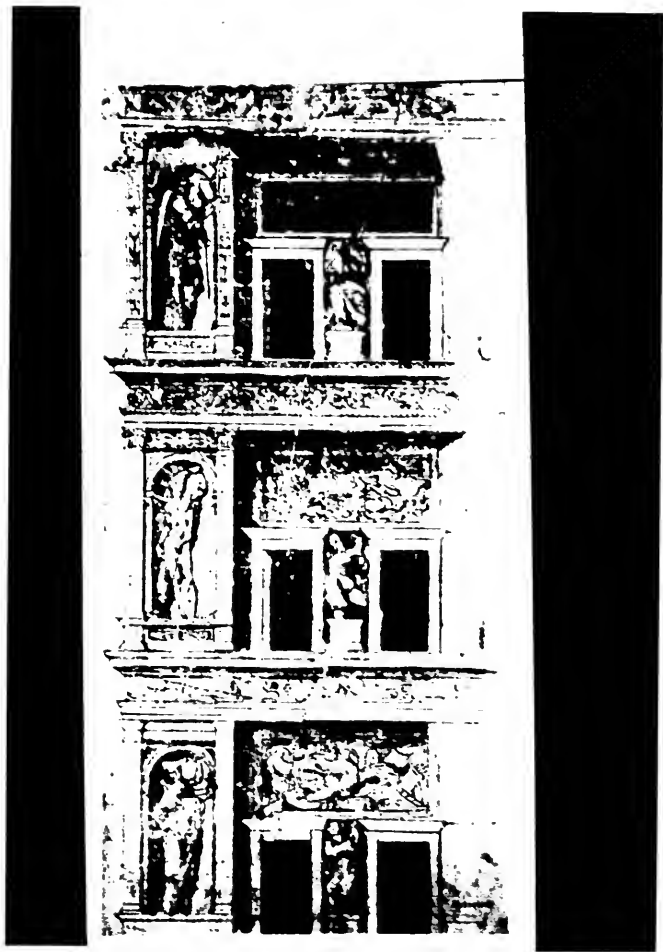


Illustration 15a: Drawing for the remodeling of "Casa dei Borghesi," by Beccafumi, circa 1512. From Erwin Panofsky, *Meaning in the Visual Arts* (New York: Doubleday Anchor Books, 1955), Pl. 59.



Illustration 16: Portrait of Hans Holbein the Younger (b. 1465-1524) painted by Sir Henry Gildford, date unknown. From Bernard Meyers, *Encyclopedia of Painting*, (New York: Crown Publishers, Inc., 1955), 234.

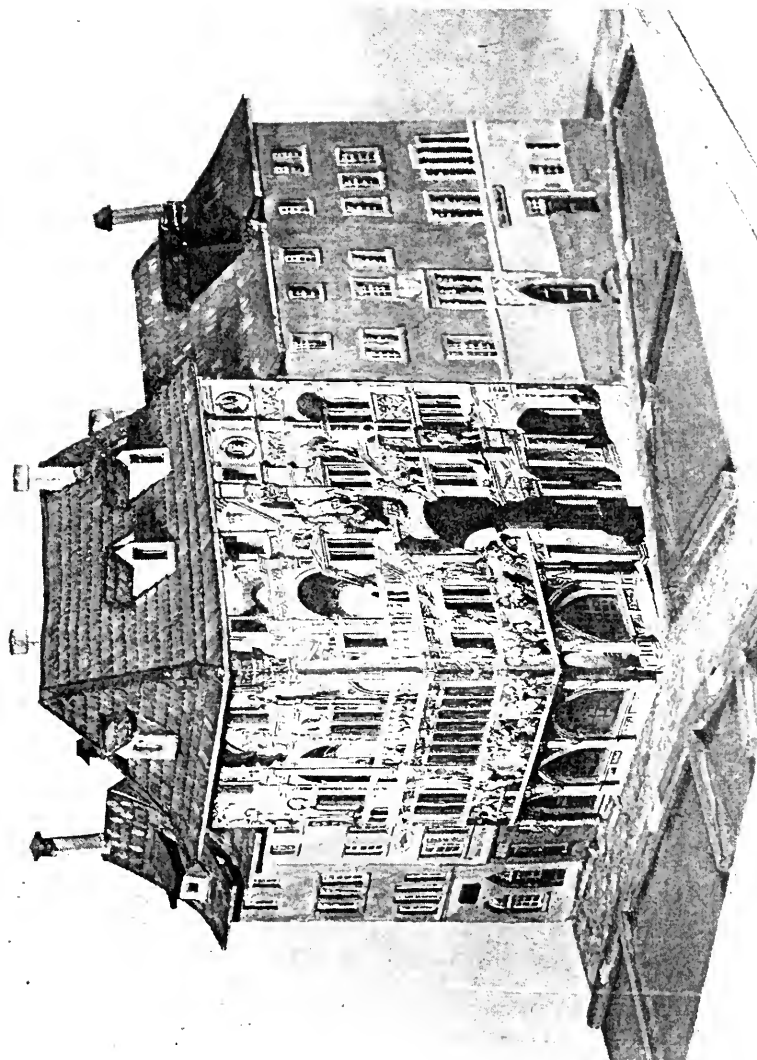


Illustration 16a: A model of the "House of the Dance," 1925. From M.L. d'Otrange Mastai, *Illusion in Art, Trompe L'oeil: History of Pictorial Illusionism*, (New York: Abaaris Books, 1975), 117.

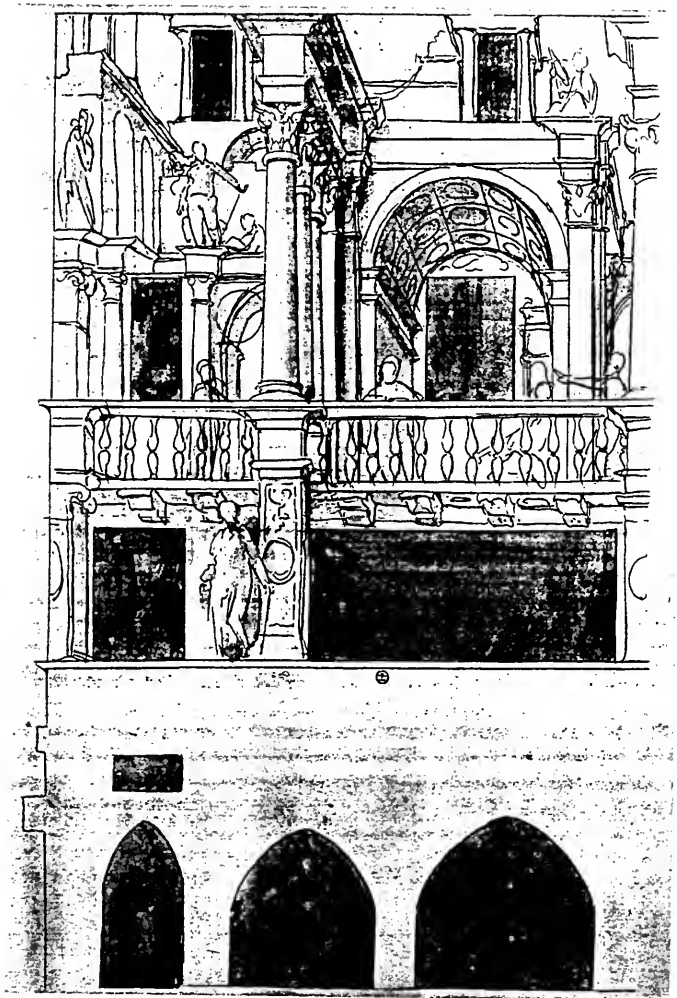


Illustration 16b: Facade drawings for the "House of the Dance" by Hans Holbein the Younger, circa 1520. From Ingvar Berstrom, *Revival of Illusionistic Wall Painting in Renaissance Art,* (Goteborg: Goteborg Universitets Arsskrift, vol. LXIII, 1957), 12.

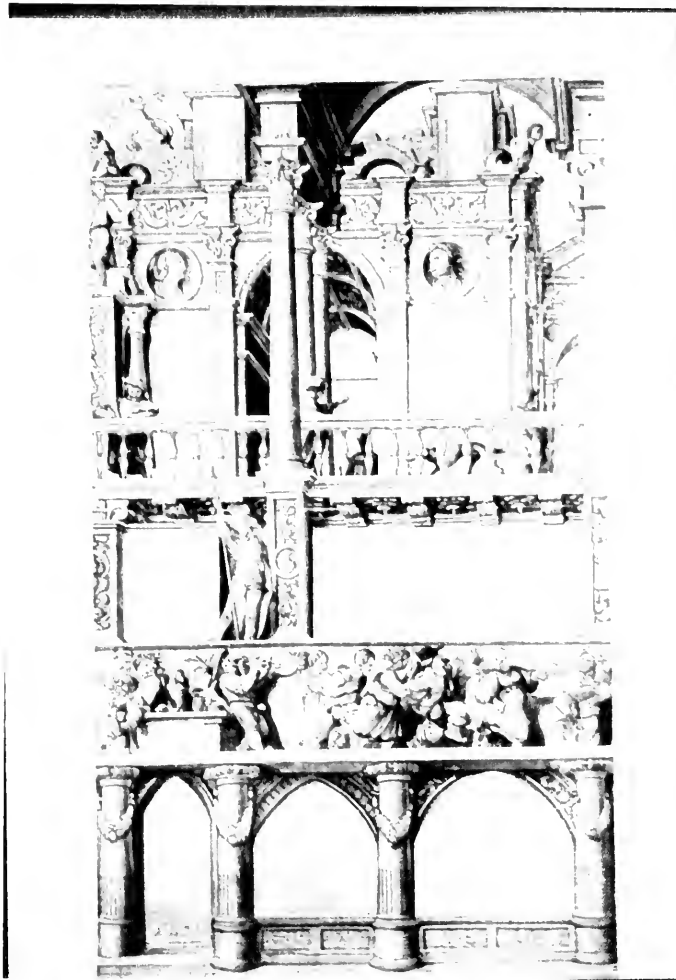


Illustration 16c: Facade drawings for the "House of the Dance" by Hans Holbein the Younger, circa 1520. From Ingvar Berstrom, *"Revival of Illusionistic Wall Painting in Renaissance Art,"* (Goteborg Uniersitets Arsskrift, vol. LXIII, 1957), 13.

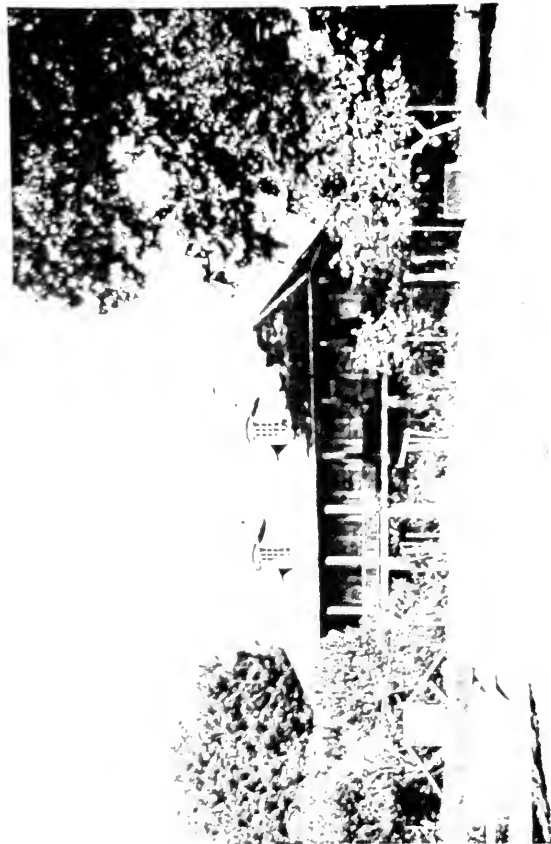


Illustration 17: View of the Whitney Plantation, Louisiana, circa 1936.
 From Thaddeus Roger Kilpatrick, III, *A Conservation Study of the
 Decorative Painting at Whitney Plantation*, (Philadelphia: University of
 Pennsylvania, 1992), 93.

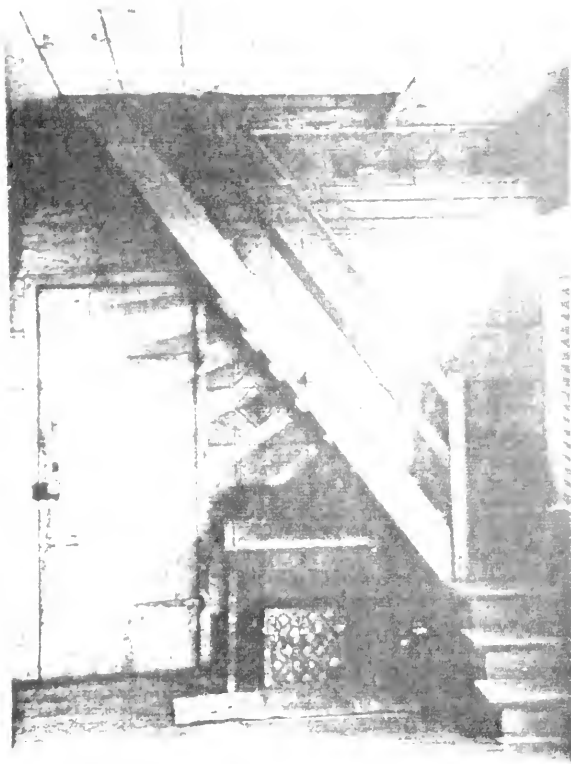


Illustration 17a: View of exterior facade painting at the Whitney Plantation by an artist unknown, circa 1936. From Thaddeus Roger Kilpatrick, III, *A Conservation Study of the Decorative Painting at Whitney Plantation*, (Philadelphia: University of Pennsylvania, 1992), 105.

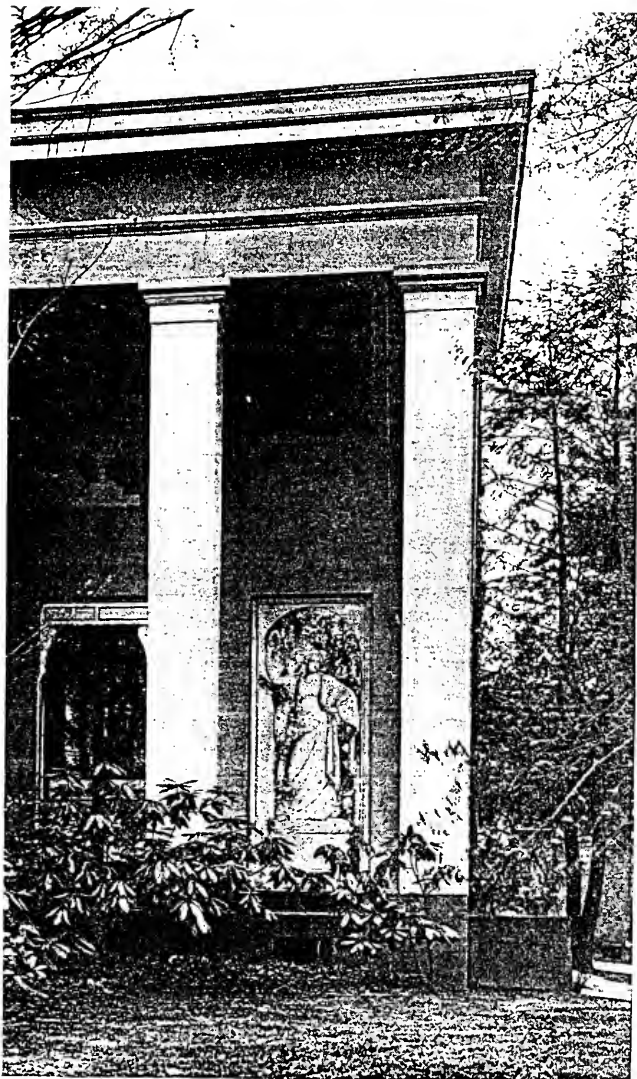


Illustration 18: View of exterior facade painting at the Alsop Plantation in Middletown, Connecticut, date and artist unknown. From Edward B. Allen, *Early American Wall Paintings 1710-1850.*, 1962. Reprint, Library of American Art Series, (New York: Da Capo Press, 1971), 103.



Illustration 19: "Unidos Venceremos," in New York City by Cityarts Workshop, 1980. From Volker Barthelmeh, *Streetmurals*, (New York: Alfred A. Knopf, 1982), 17.

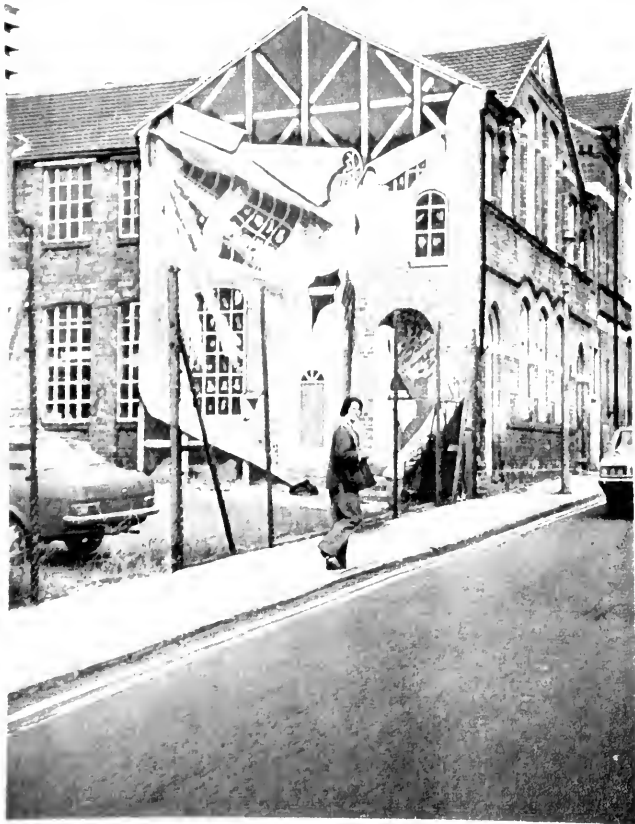


Illustration 20: "Patience is a Virtue," in Coventry, England by Colin Slater, 1982. From Volker Barthelmeh, *Streetmurals*, (New York: Alfred A. Knopf, 1982), 69.



Illustration 21: "Untitled," in Cincinnati, Ohio by Tom Smith, 1973. From Volker Barthelmeh, *Streetmurals*, (New York: Alfred A. Knopf, 1982), 28.



Illustration 22: View of wall preparation phase of Ludow Street Mural in New York City, 1989. Photograph courtesy of Born of Brush Studio, Inc.



Illustration 22a: View of Ludow Street Mural in progress, 1989.
Photograph courtesy of Born of Brush Studio, Inc.



Illustration 22b: Entrance detail of Ludow Street Mural, 1989. Photograph courtesy of Born of Brush Studio, Inc.



Illustration 22c: Window detail of Ludow Street Mural, 1989. Photograph courtesy of Born of Brush Studio, Inc.

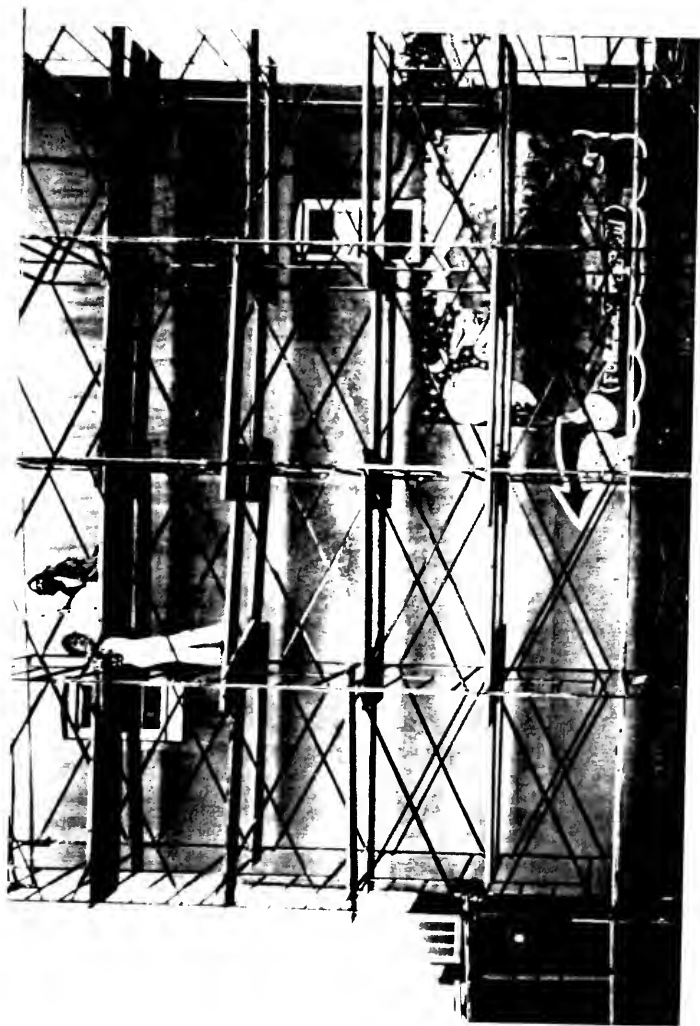


Illustration 22d: View of Canterbury Ales Restaurant Mural in Huntington, Long Island, 1982. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 83.

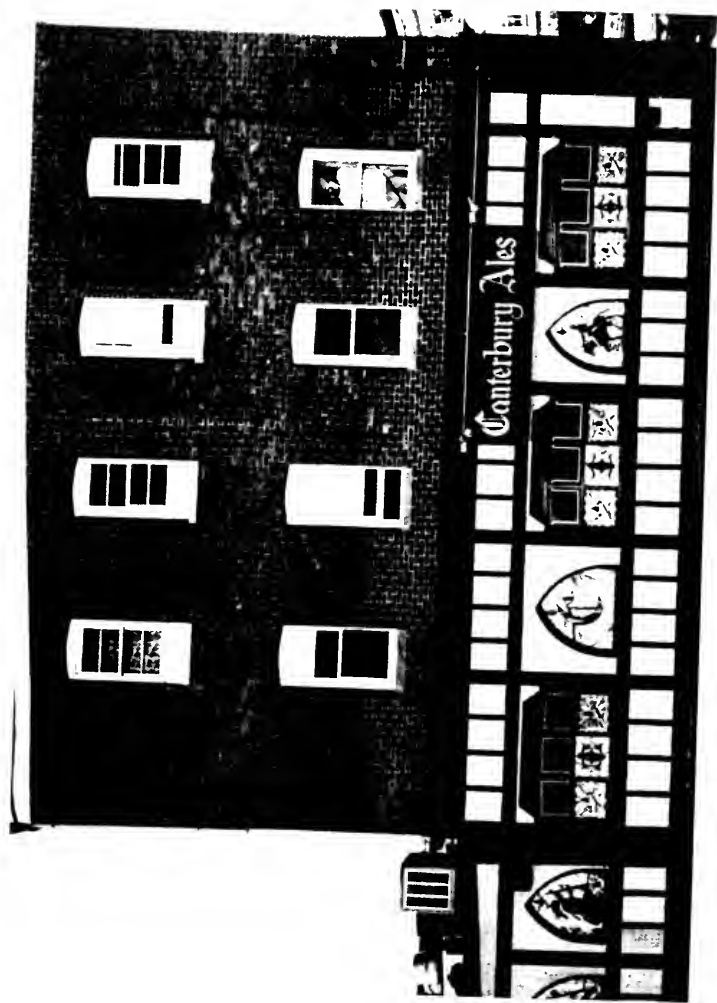


Illustration 23a: View of completed Canterbury Ales Restaurant Mural, 1982. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 83.

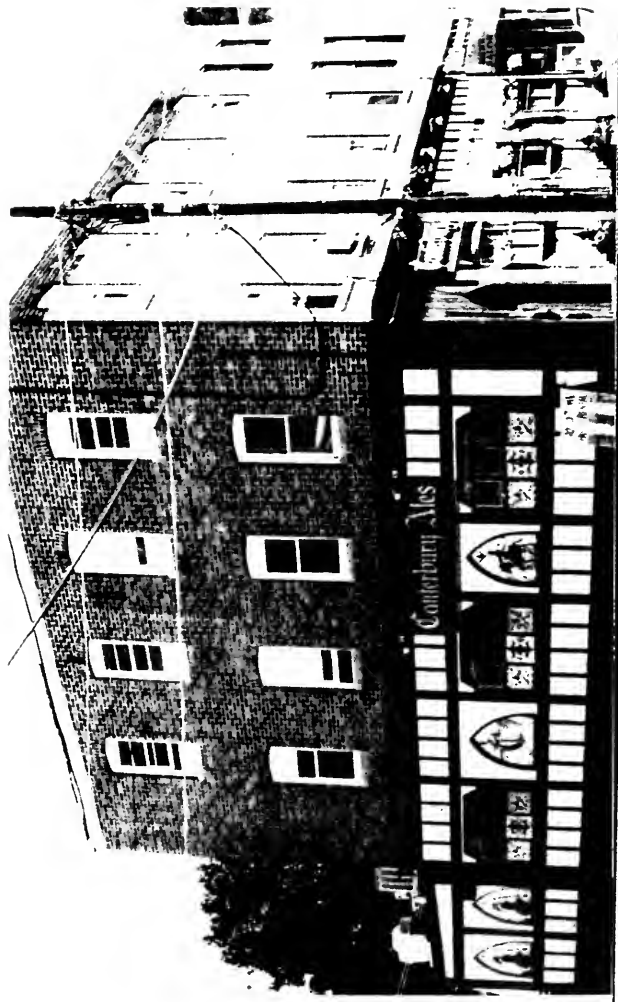


Illustration 23b: View of completed Canterbury Ales Restaurant Mural, 1982. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 83.

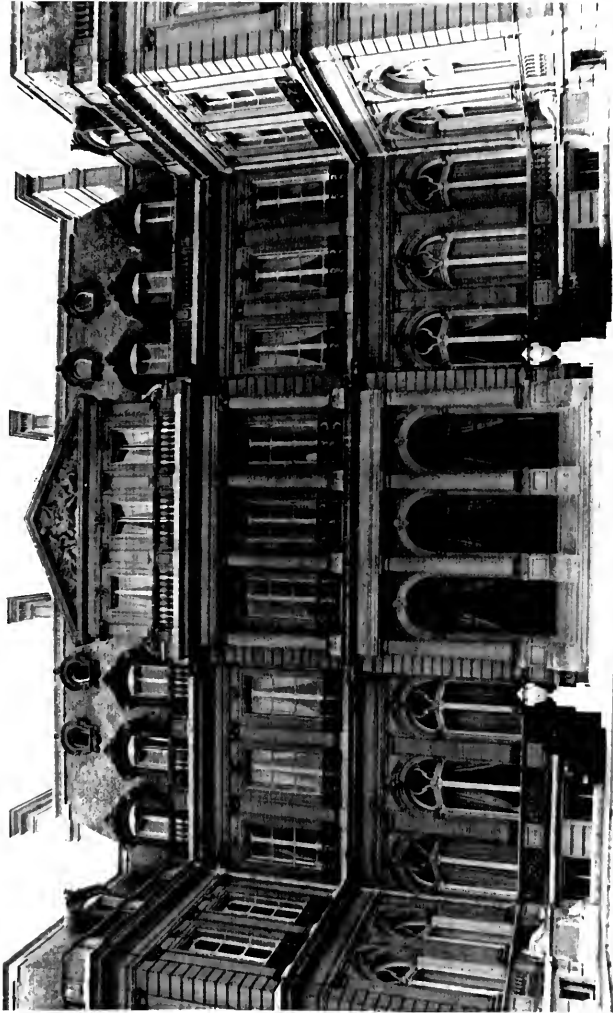


Illustration 23c: View of the United States Ambassador's Residence in Paris, 1980. Photograph courtesy of the United States Embassy in France.



Illustration 24a: 1829 portrait of Ludovico (Louis) Visconti (1791-1853), by Vauchelet. From *L'architecture D'aujourd'hui*, no. 278 (December, 1985), 44.

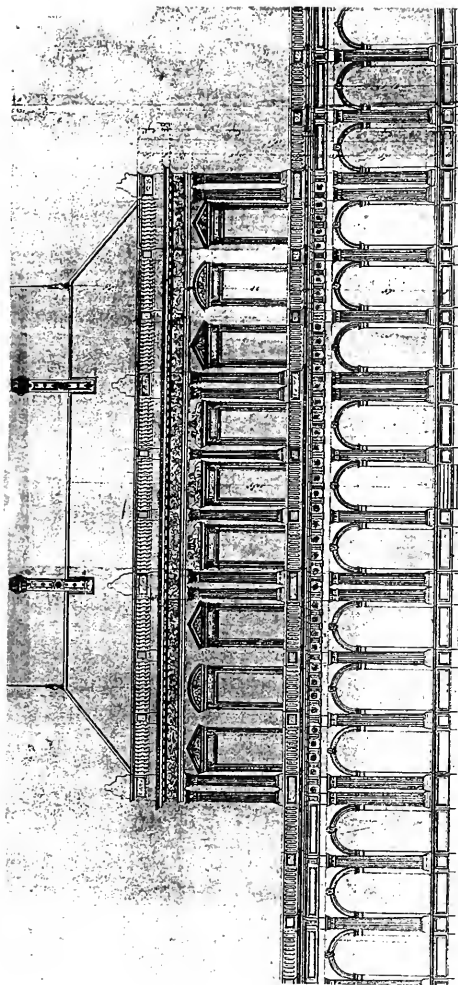


Illustration 24b: Garden elevation of "L'Hotel Pontalba," 1839. From Charles MacCallum, Louis Visconti: 1791-1853, (Paris: Delegation a l'Action Artistique de la Ville de Paris, 1991), 194.

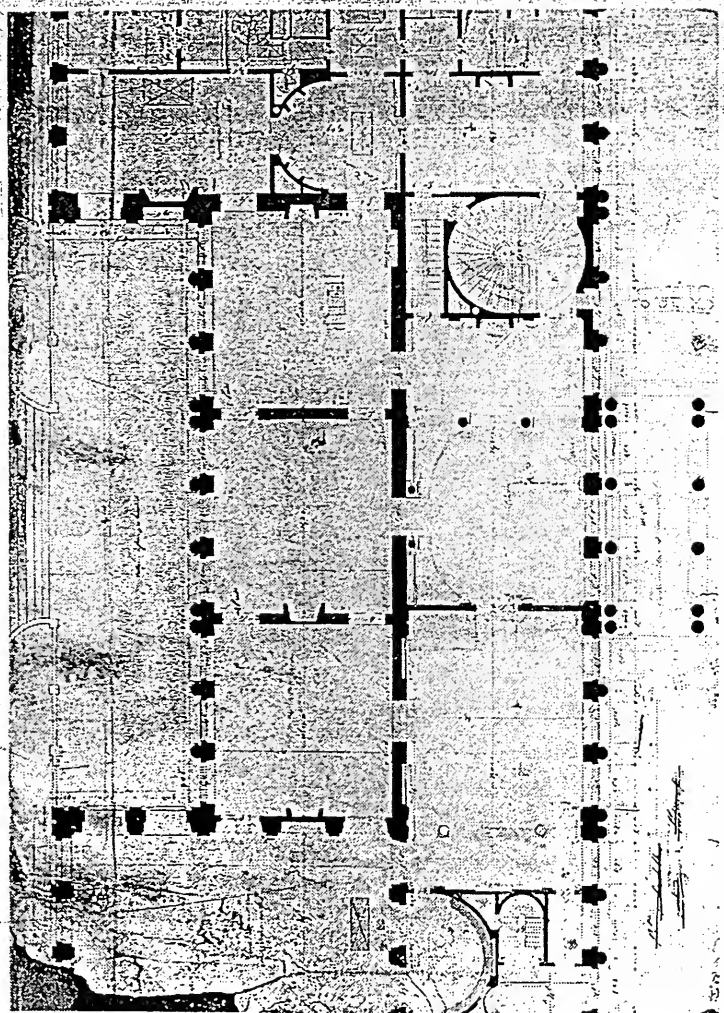


Illustration 24c: Ground floor plan of L'Hotel Pontalba, "drawn by Ludovico Visconti, 1839. From Charles MacCallum, Louis Visconti: 1791-1853, (Paris: Delegation a l'Action Artistique de la Ville de Paris, 1991), 194.

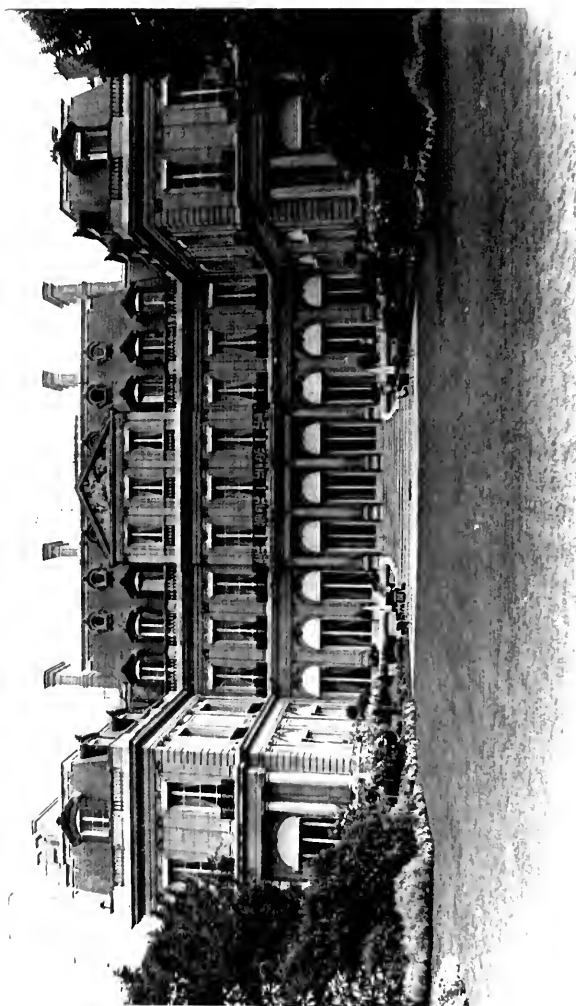


Illustration 24d: Garden elevation of U.S. Ambassador's Residence, 1980. Photograph courtesy of the United States Embassy in France.



Illustration 24e: U.S. Ambassador's Residence mural (inner courtyard), Paris painted by Philip Jordan, 1983. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 80.



Illustration 24f: Detailed view of U.S. Ambassador's Residence mural (inner courtyard), Paris painted by Philip Jordan, 1983. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 82.

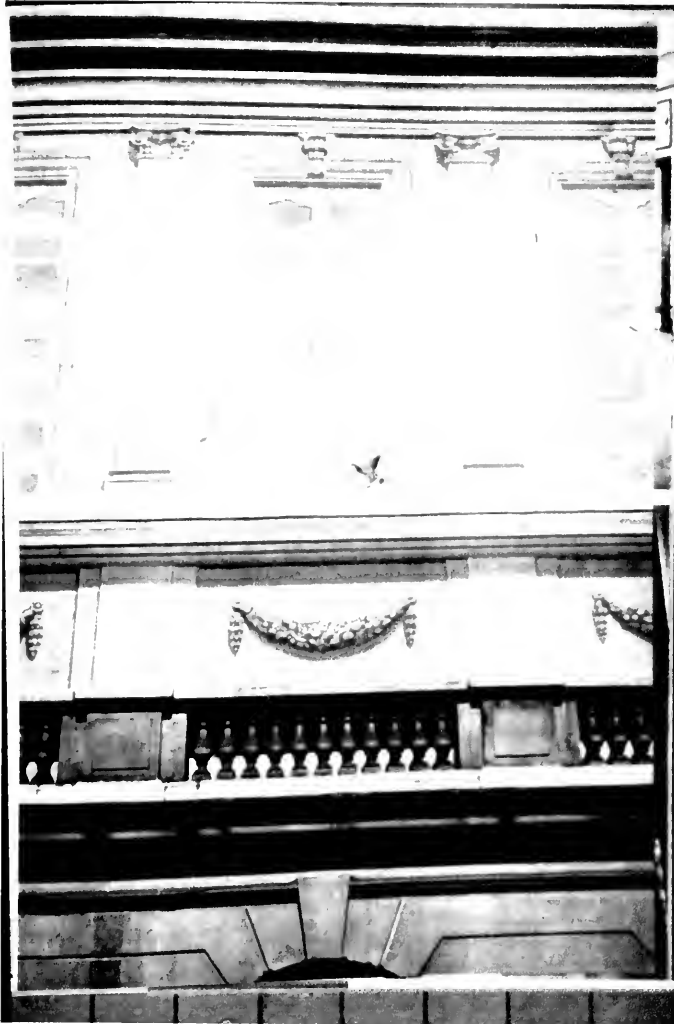


Illustration 24g: U.S. Ambassador's Residence mural (inner courtyard), Paris painted by Philip Jordan, 1983. From Lawrence Grow, *Architectural Painting* (New York: Rizzoli, 1986), 80.

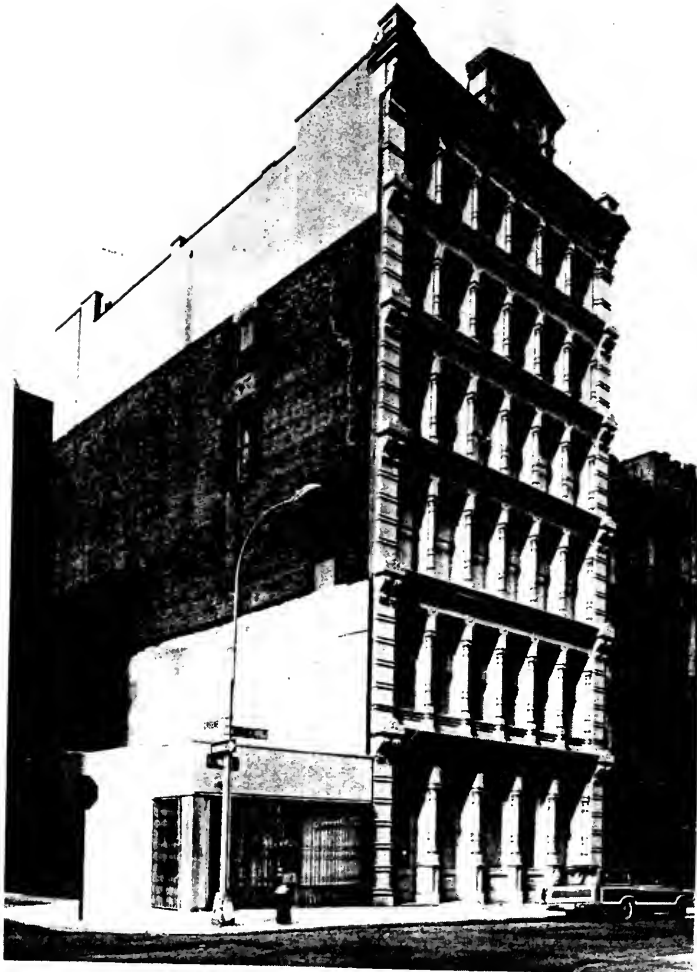


Illustration 25: 112 Prince Street, New York City, circa 1850. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 66.



Illustration 25a: View of signpainters at work on SoHo Mural, 1974. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 70.



Illustration 25b: Detail view of SoHo Mural, 1974. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 70.

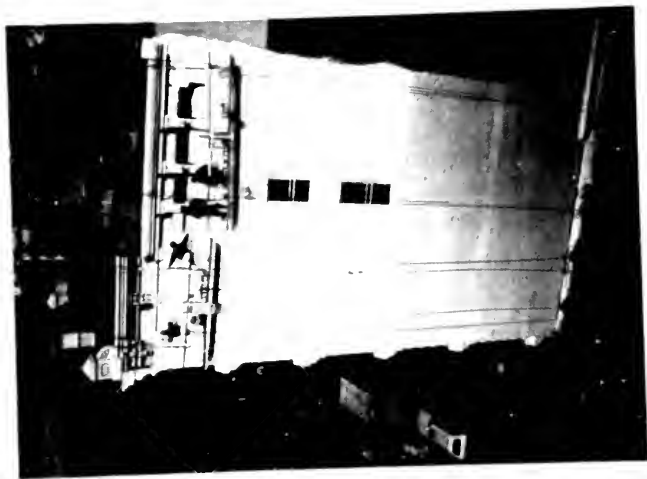


Illustration 25c: View of wall preparation phase of SoHo Mural, 1974.
From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*.
(New York: Rizzoli, 1981), 70.

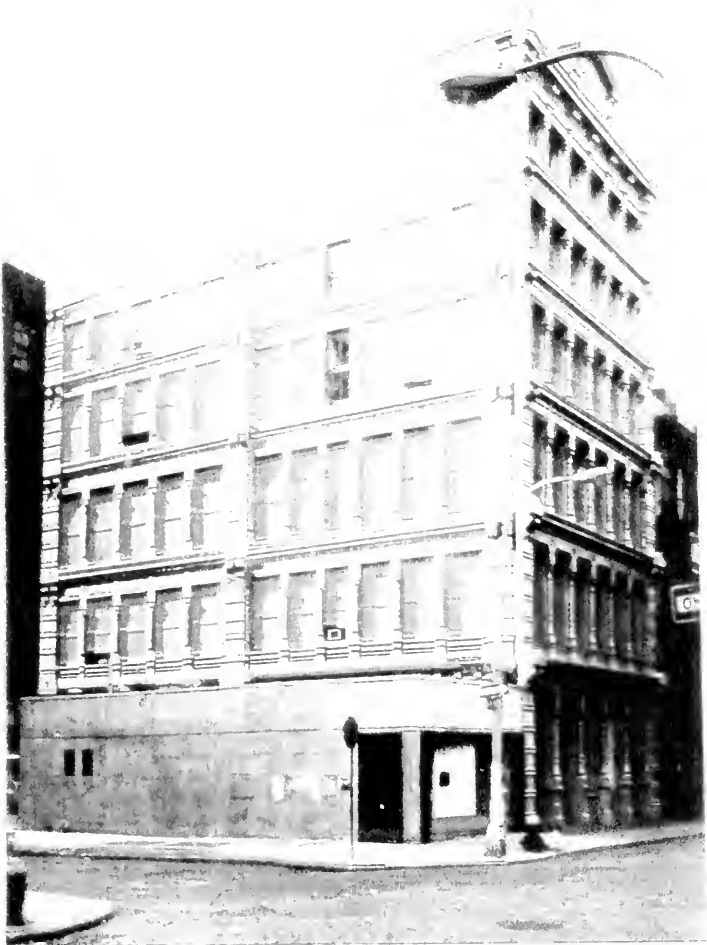


Illustration 25d: Completed SoHo Mural, 1974. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 70.

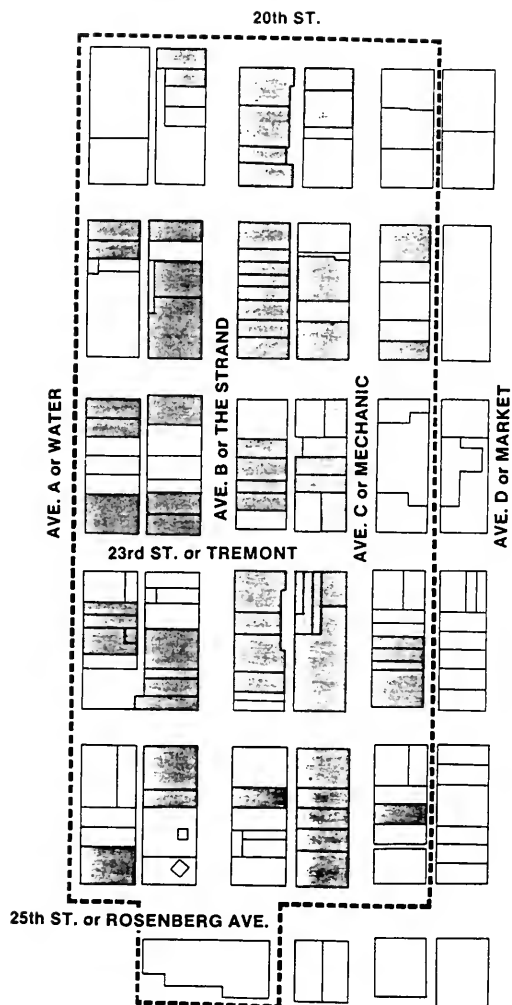


Illustration 26: Map of Historic Strand District. From LeRoy Johnson, Jr., *Handbook of Maintenance Techniques for Building Conservation in the Historic District, Galveston, Texas*, (Austin: Building Conservation Technology, Inc., 1984), ix.



Illustration 26a: The Springer Building, 2117-2123 The Strand, Galveston, Texas, circa 1963. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 72.

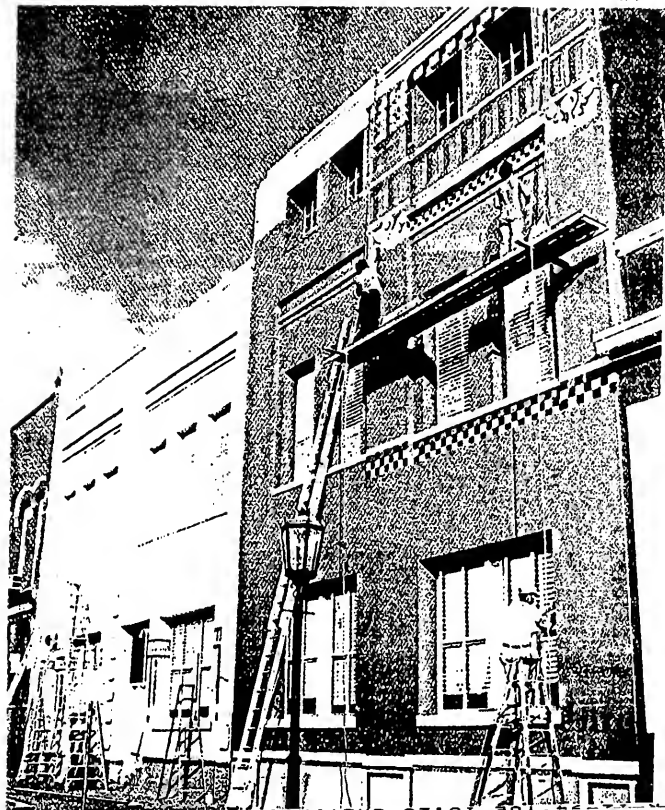


Illustration 26b: The Springer Building Mural in progress, 1976. From *The Galveston Daily News* (June, 1976), 1.



Illustration 26c: The Springer Building Mural, 1976. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 73.

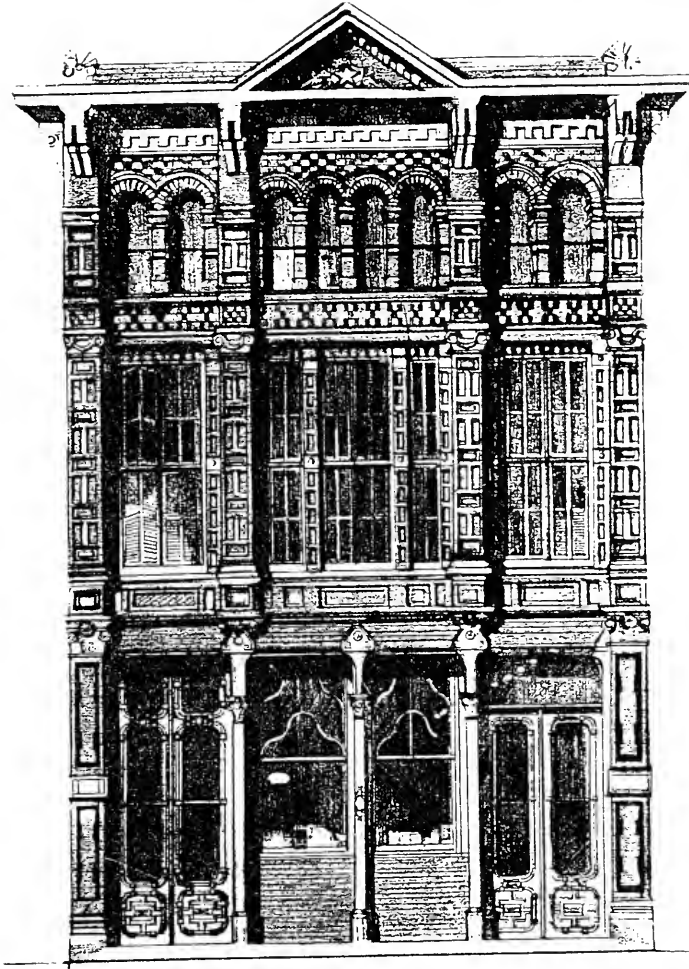


Illustration 26d: "Galveston," etching and aquatint, 1972. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 73.



Illustration 26e: Aerial view of The Strand, Galveston, Texas, circa 1970. From LeRoy Johnson, Jr., *Handbook of Maintenance Techniques for Building Conservation in the Historic District, Galveston, Texas*, (Austin: Building Conservation Technology, Inc., 1984), v.

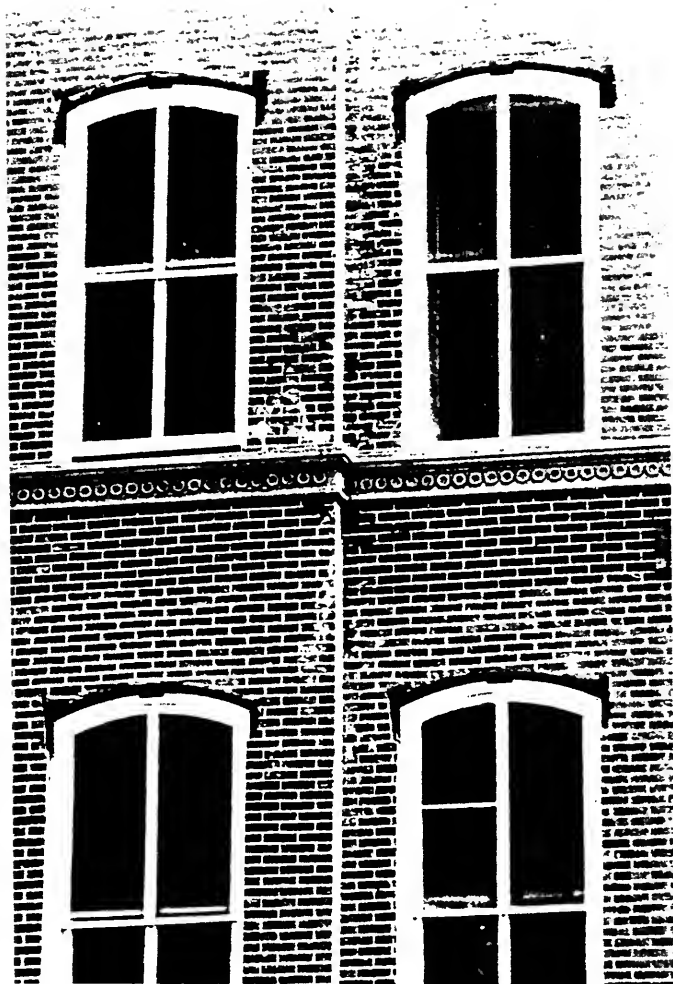


Illustration 26f: Detail view of facade on nearby building on the Strand, 1970. From LeRoy Johnson, Jr., *Handbook of Maintenance Techniques for Building Conservation in the Historic District, Galveston, Texas*, (Austin: Building Conservation Technology, Inc., 1984), 45.

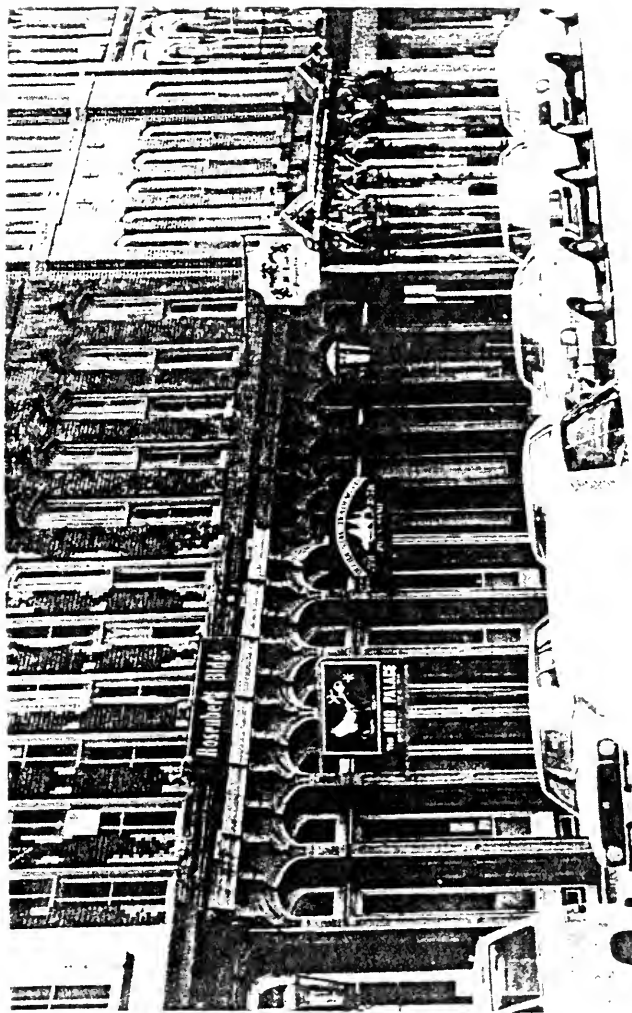


Illustration 26g: View of building facades on the Strand, 1970. From LeRoy Johnson, Jr., *Handbook of Maintenance Techniques for Building Conservation in the Historic District, Galveston, Texas*, (Austin: Building Conservation Technology, Inc., 1984), 65.



Illustration 27: Crossroads Building Tower (formerly the Heilberg), 1465 Broadway & 42nd. Street, New York City, 1977. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 94.



Illustration 27a: Aerial view of New York Times Tower (A) and Crossroads Building (B), 1977. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 98.

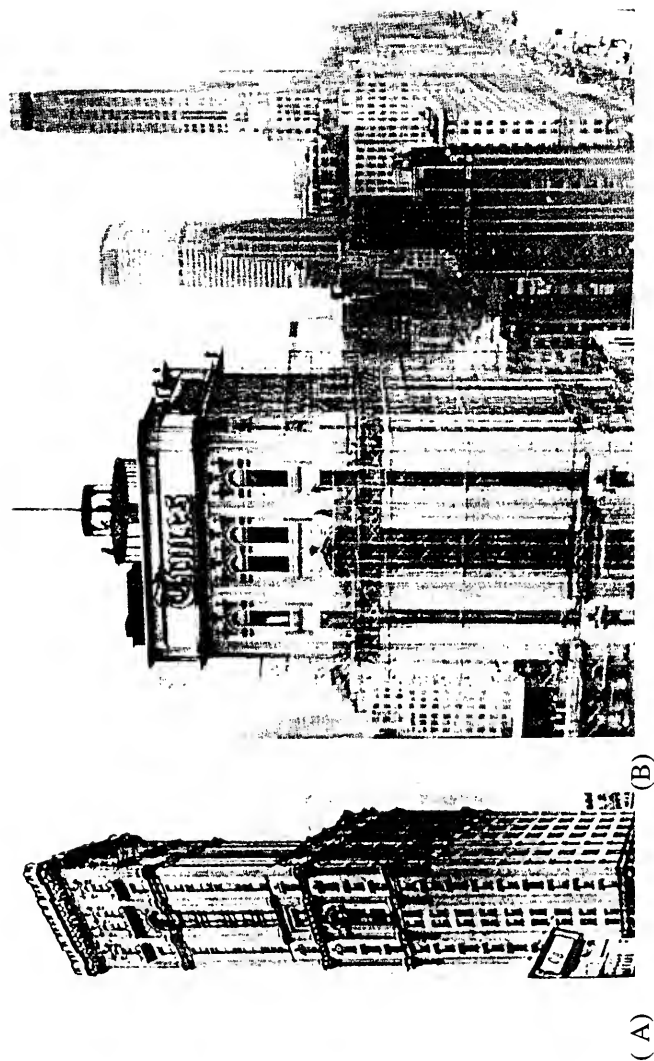


Illustration 27b: View of New York Times Tower in 1905 (A), and view of the building during extensive renovation in 1966 (B). From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 94.

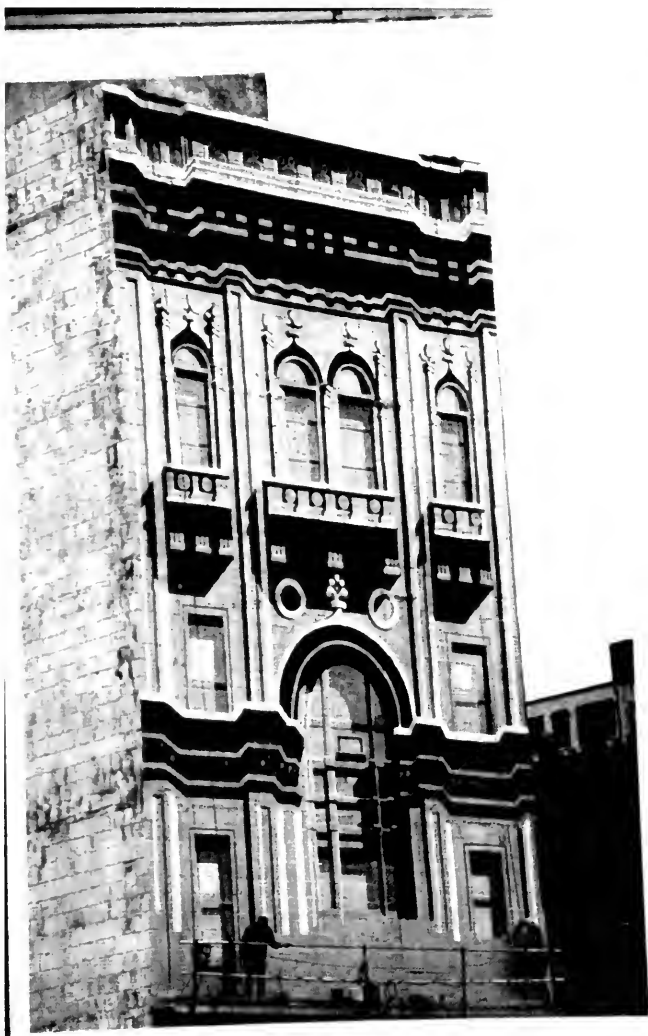


Illustration 27c: Times Building Mural in progress, 1977.
From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 97



Illustration 27d: Completed Times Building Mural, 1465 Broadway and 42nd. Street, New York City, 1979. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 94.



Illustration 27e: View of Times Building Mural from street level, 1980.
From Martin Filler, *Richard Haas Architectural Projects 1974-1988*, (New York: Alexander hoffman Gallery, 1988), 60.

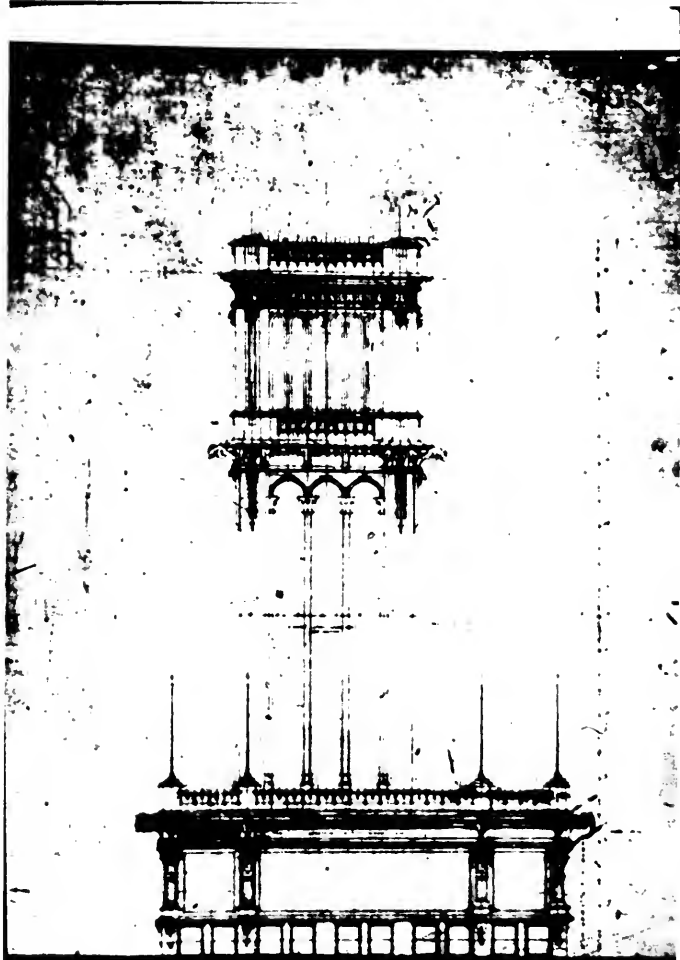


Illustration 27f: Original 1906 elevation blueprint of the Heidelberg (Crossroads Building) by Henry Ives Cobb. From Paul Goldberger, intro. *Richard Haas: An Architect of Illusion*. (New York: Rizzoli, 1981), 99.

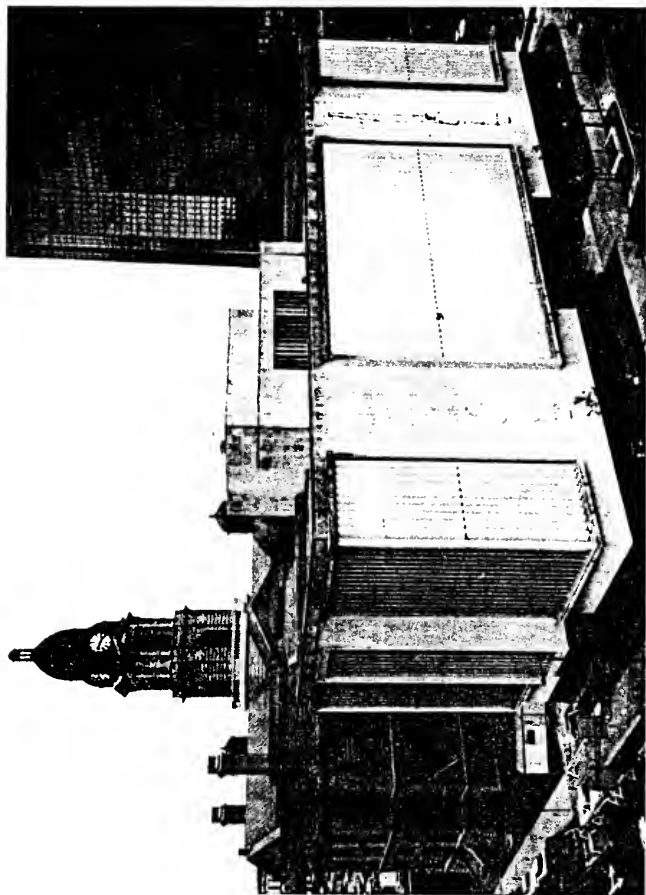


Illustration 28: The Tarrant County Courthouse Annex, 100 East Weatherford, Fort Worth, Texas, 1987. From Martin Filler, *Richard Haas Architectural Projects 1974-1988*, (New York: Alexander Hoffman Gallery, 1988), 17.

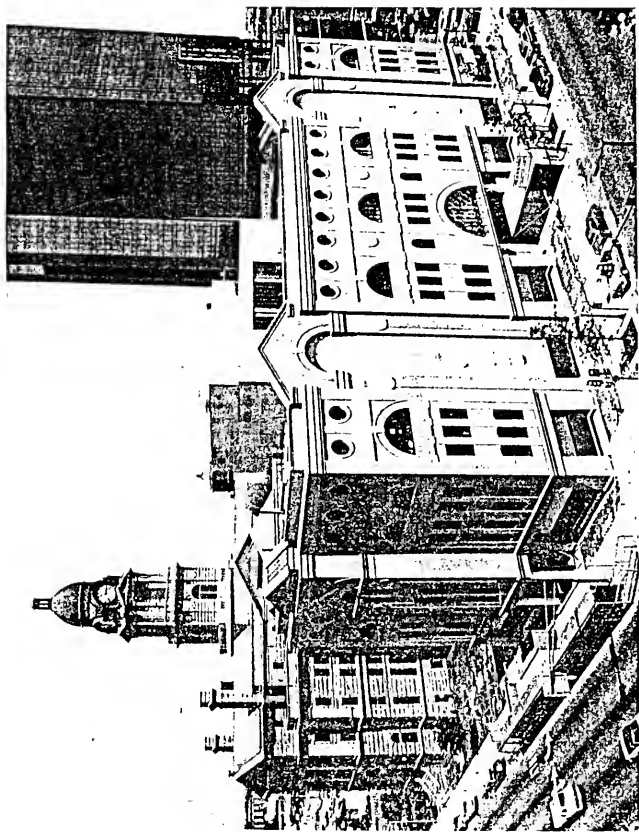


Illustration 28a: View of exterior pre-fabricated panel system of the Tarrant County Courthouse Annex, 1988. From Martin Filler, *Richard Haas Architectural Projects 1974-1988*, (New York: Alexander Hoffman Gallery, 1988), 17.



Illustration 28b: Detail view of the Tarrant County Courthouse Annex Mural, 1988. From *Architecture* (November, 1988), 116.



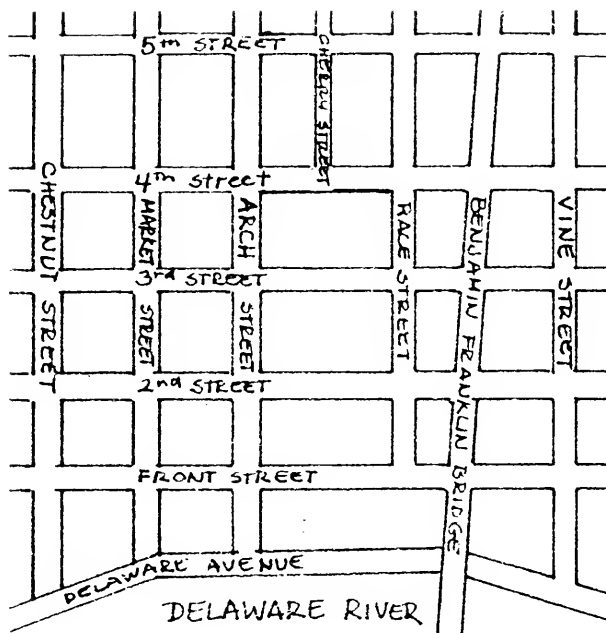
Illustration 28c: General view of the Tarrant County Courthouse Annex Mural, 1988. From Martin Filler, *Richard Haas Architectural Projects 1974-1988*, (New York: Alexander hoffman Gallery, 1988), 17.



Illustration 29: Photograph of 33 North Third Street, Philadelphia, Pennsylvania, 1994. Photographed by Derek Satchell.



Illustration 29a: Detail view of cornice detail at 33 North Third Street, 1994. Photographed by Derek Satchell.



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Illustration 29b: Map of Old City Historic District, Philadelphia, Pennsylvania.



Illustration 29c: Photograph of 49-37 North Third Street, Philadelphia, Pennsylvania, 1994. Photographed by Derek Satchell.



Illustration 29d: Photograph of 33-17 North Third Street, Philadelphia, Pennsylvania, 1994. Photographed by Derek Satchell.



Illustration 29e: Detail view of 33 North Third Street building facade, 1994. Photographed by Derek Satchell.

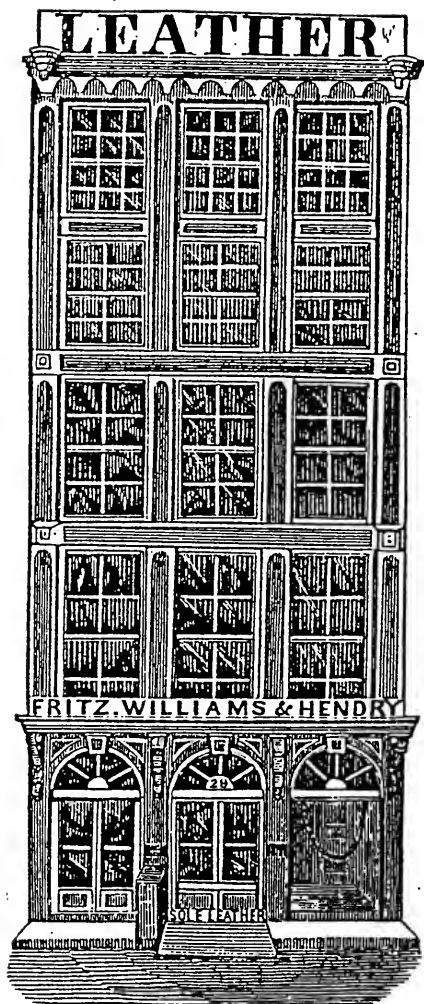


Illustration 30: Engraving of 29 North Third Street, Philadelphia, Pennsylvania by Charles B. J. Saint-Memin, circa 1801. From the Cambell Collection, vol. 89, The Historical Society of Philadelphia, Pennsylvania, 65.



Illustration 30a: View of North Third Street (east side), from Arch to Market Streets, *Baxter's 1860 Panoramic Business Directory of Philadelphia*. From the Print and Documents Collections, The Library Company of Philadelphia, 1322 1/2.F.4

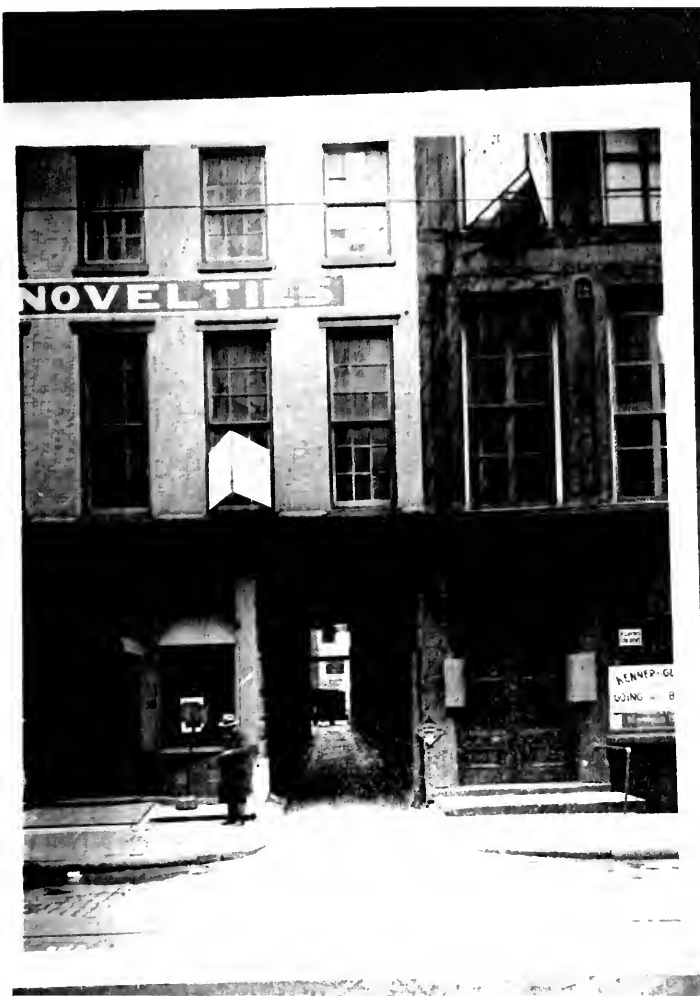


Illustration 30b: 1929 photograph of 35-33 North Third Street, Philadelphia, Pennsylvania. From the Philadelphia City Archives, Photograph #7944, folder #1851.



Illustration 30c: 1960 photograph of 39-33 North Third Street, Philadelphia, Pennsylvania. From the Philadelphia City Archives, Photograph #40472, folder #1851.

LEATHERS

BOBBITT BROTHERS INC.

Illustration 31: Sketch of proposed facade mural for 33 North 3rd Street, Philadelphia, Pennsylvania, 1994. Drawn by Derek Satchell

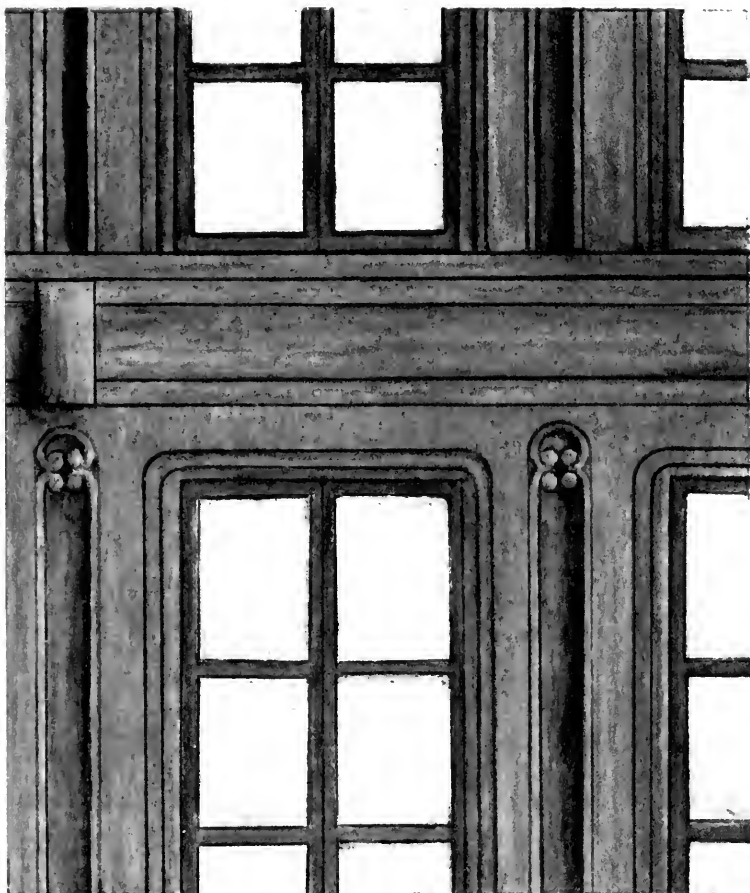


Illustration 31a: Detail sketch of window for proposed facade mural, 1994. Drawn by Derek Satchell.

APPENDIX A

A selected list of architectural painters, suppliers, and professional organizations that can provide technical information and assistance.

Painters

Anne Gray Harris Design Studios
145 East 74th. Street, Apt 11B
New York, New York 10001

Othmar Carli, Conservator
915 SpringGarden Street
Philadelphia, Pennsylvania 19014

Born of Brush, Inc.
163 Ludow Street
New York, New York 10002

Conrad Schmidt Studios
2405 South 162 Street
Millwaukee, Wisconsin

Lynn Goodpasture
42 West 17th Street
New York, New York 10011

Grande Illusions
264 Bowery
New York, New York 10012

Maer-Murphy Inc.
429 West 53rd. Street
New York, New York 10019

Evergreene Painting Studios
635 West 23rd. Street
New York, New York 10011

Suppliers

Daniel Smith, Inc.
Fine Artist Materials
4130 First ave., South
Seattle, WA. 98134

Dow Chemical Company
Dow Chemical U.S.A.
2020 Dow Center
Midland, MI. 48640

Edmund Scientific
101 E. Gloucester Pike
Barrington, NJ. 80007

Fedrix Artists Canvas, Inc.
Tara Materials, Inc.
Box 646
Lawrenceville, GA. 30246

Kremer Pigmente
(Kremer Pigments, Inc.)
61 East 3rd. Street
New York, NY 10003

Professional Organizations:

Federation of Societies for Coating Technology
492 Norristown Road
Blue Bell, Pa. 19422

Painting and Decorating Contractors of America
3913 Old Lee Highway, Suite 33B
Fairfax, Virginia

The Bard Graduate Center for Studies in the Decorative Arts
18 West 86th. Street
New York, New York 10019

APPENDIX B

Chain of Title for 33 North 3rd Street in Philadelphia, Pennsylvania.

The original documents used to complete this chain of title are deposited in the office of the Philadelphia Register of Deeds in Philadelphia, Pennsylvania.

CHAIN OF TITLE FOR
33 NORTH 3RD. STREET
PHILADELPHIA, PENNSYLVANIA

January 24, 1765

Deed Book H vol. 21, p.94

?

to

Samuel Burge

For some undisclosed reason and fee, Samuel Burge was conveyed a "lot of ground composed of the said lots of 18' 8" and 2' 8" and described as containing in front on 3rd Street 21' 4", and in depth 95' with the appurtenances subject to the proportionate part of the said yearly ground rent".

NOTE: Upon the death of Samuel's widow, Beulah, the property is petitioned in Orpha's Court by the couple's surviving children (Elizabeth and Sarah). The following citation is found in Beulah's will dated June 12, 1794:

"the message and lot of ground in the plot there to annexed and marked No. 1 (being part of the forementioned lot) situate on the east side of 3rd. Street; breath 26 feet, seven inches and 175 feet bounded to the north by a 9 feet alley laid out for its use of this and two other messuages marked in plan No. 9 & No. 10."

This will also references the construction of a new building over the nine foot wide alley by neighbor Daniel Harting found in Deed Book 42, p.550.

November 11, 1843

Deed Book R.L.L 12, p.496

Beulah Howell

to

Joseph S. Lovering

For the sum of twenty-three thousand dollars, Joseph Lovering (a suger refiner) purchased from Beulah Howell (a gentlewoman and daughter of Elizabeth Burge) plot No. 1 . . . "situate on the eastward side of 3rd. Street and south side of *Hartungs* (?) alley, containing in front on said 3rd. Street 24 feet 9 inch in depth eastward along the south side of Hartungs Alley 100 feet."

CHAIN OF TITLE FOR 33 NORTH 3RD. STREET
PHILADELPHIA, PENNSYLVANIA

March 15, 1924

Transfer Sheet IN2, Lot 103

**Mary Hutchingson (Samuel's widow);
Corbit Lovering and Ira Rowland (his wife);
The Pennsylvania Company surviving trustees
under will of Joseph S. Lovering**

to

Merris and Elizabeth Gustew

Granted and bequeathed to Merris and Elizabeth Gustew (relationship to Joseph S. Lovering unknown) for an undisclosed reason, the location and measurements are the same as in the previous recital.

January 15, 1927

Transfer Sheet IN2, Lot 103

Merris Gustew & Elizabeth his wife

to

Israel Kenner

The location and measurements are the same as in the previous recital.

April 14, 1930

Transfer Sheet IN2, Lot 103

Israel Kenner

to

The Pennsylvania Company for Insurance on Lives

For an undisclosed fee, the property was conveyed to the said grantee. The location and measurements are the same as in the previous recital.

CHAIN OF TITLE FOR 33 NORTH 3RD. STREET
PHILADELPHIA, PENNSYLVANIA

May 21, 1942

Transfer Sheet IN2, Lot 103

The Pennsylvania Company for Insurance on Lives

to

Samuel Miller

For an undisclosed fee, the location and measurements (the same as in the previous recital) are described in Deed Book D.W.H. 1570, p.574.

May 14, 1967

Transfer Sheet IN2, Lot 103

Harold Cantor, Exeutor of Samuel Miller

to

Sidney Segal

For the sum of twenty-three thousand, the location and measurements (the same as in the previous recital) are described in Deed Book C.A.D. 931, p.212.

March 14, 1967

Transfer Sheet IN2, Lot 103

Gerald Segal, Exeutor of Sidney Segal

to

Han Kyung Chae & Jung Hae Chae

For the sum of twenty-four thousand nine hundred dollars, the location and measurements (the same as in the previous recital) are described in Deed Book F.H.S. 1340, p.252.

NOTE: This is the current owner of the property as recorded by the City of Philadelphia. The building currently houses a childrens' clothing store on the first floor and storage on the second floor. The third through fifth floors are vacant.

PRESENT OWNER.	FORMER OWNER.	DATE OF DEED.	No. of Pages.
Wm. S. Loring	Edmund	Butler Gould Nov. 27. 1843	

(Bring Deed with this that it may be endorsed # 103)

DESCRIPTION OF PROPERTY,

Which must be an exact copy, in the wording of the Deed.

That lot of ground with the buildings &c. thereon situated on the S. side on the east side of 8th St. 1st on each side of Hartung's Alley, containing in front on said 8th St. 244.9 in. & in depth eastward along the back side of Hartung's Alley 100 ft.

Signature of Owner or Agent

APPENDIX C

Design specifications for Dryvit.

The following information pertains to the construction specifications of Dryvit (an exterior wall insulation and finish system featuring Owens-Corning Glas-Lath © fiberglass insulation board). Courtesy of the Manning Company, 680 Benjamin Franklin Highway, Birdsboro, Pennsylvania.

EXSULATION™ SYSTEM SPECIFICATION

PART I—GENERAL

1.01 DESCRIPTION AND SCOPE

- A. Provide all labor, materials and equipment necessary to install the Field-Applied **Exsulation™** System and/or fabricate and erect the panelized **Exsulation** System

B. Description of Systems:

1. The **Exsulation** System: An exterior insulation and finish system consisting of Owens-Corning **Fiberglas Glas-Lath®** Insulation Board and Reinforcing Mesh, mechanical fasteners, **Genesis™** Base Coat, and **Dryvit** Finish(es), marketed by Dryvit System, Inc., One Energy Way, West Warwick, Rhode Island 02893.
2. Field-Applied **Exsulation** System: The **Exsulation** System applied to the substrate in its final position on the building.
3. Panelized **Exsulation** System: Architectural wall panels prefabricated at a distance from their final position on the building and later installed on the building. The Panelized **Exsulation** System consists of light-gauge steel framing or wood framing, sheathing substrate (if applicable) with sheathing fasteners, panel to building connections, and the **Exsulation** System.

C. Definitions:

1. **Dryvit System, Inc.:** The marketer of the **Exsulation** System.
2. Trained Applicator: The contractor that applies the **Exsulation** System to the Substrate.
3. Substrate: The material to which the **Exsulation** System is affixed.
4. **Genesis:** A factory formulated, fiber reinforced acrylic-based material designed to be mixed one-to-one by weight with Type 1 Portland Cement. The **Genesis**/Portland Cement mix produces a high build base coating for use over Owens-Corning **Glas-Lath** Insulation Board as part of the **Exsulation** System.
5. **Genesis Mixture:** A field-mixed blend of **Dryvit Genesis** and Portland Cement used as a component of the Base Coat.
6. **Owens-Corning Glas-Lath** Insulation Board: A nominal 4-pound per cubic foot density semi-rigid board comprised of fiberglass and a weather resistant binder. Reinforcing Mesh is adhered to the fiberglass in the factory and consists of a balanced, open weave fabric constructed of continuous strand, Type E, fiberglass yarns treated to be alkali resistant.
7. **Dryvit Detail™** Reinforcing Mesh: A reinforcing mesh supplied by and meeting the specifications of **Dryvit System, Inc.** for use as a component in the Base Coat.
8. Fasteners:
 - a. Minimum 1 3/4" diameter plastic washer meeting the following:
 - (1) Maximum length 3/4".
 - (2) Minimum 1/4" screw head float.
 - (3) Must provide closure over screw head cavity.
 - (4) Maximum shank diameter 5/8".
 - (5) Textured surface.
 - (6) Must include evenly spaced perimeter holes.
 - (a) Top surface minimum 1/8" diameter.
 - (b) Underside diameter minimum of 1/16" larger than top.
9. **Dryvit** Base Coat: The layer within the lamina consisting of the reinforcing mesh (**Owens-Corning** and **Dryvit**) embedded in the **Genesis** to which the **Dryvit** Finish is applied.
10. **Dryvit** Lamina: The **Dryvit** Base Coat combined with the **Dryvit** Finish.
11. **Dryvit** Finish: A factory mixed; trowel, or in certain instances, spray applied synthetic plaster; with integral color, manufactured by **Dryvit System, Inc.** which is applied to the outside surface of the Base Coat.
12. Expansion Joint: A designed interruption in the continuity of a material, assembly, or system which experiences movement.
13. **Dryvit** Expansion Joint: A joint through the entire **Exsulation** System.
14. Building Expansion Joint: An expansion joint through the entire building structure.
15. Control Joint: A designed interruption in the continuity of a material, assembly or system.

1.02 QUALITY ASSURANCE

A. Qualifications:

1. Trained Applicator:
 - a. Shall have been trained by **Dryvit System, Inc.** and Owens-Corning **Fiberglas** in the installation of the **Exsulation** System.
 - b. Shall possess a current **Dryvit System, Inc.** certificate of training.
 - c. Shall be experienced and competent in the installation of plaster-like materials.



2. Insulation Board Manufacturer:
 - a. **Glas-Lath** Insulation Board: Manufactured to **Owens-Corning Fiberglas**' specifications
 3. Expanded Polystyrene Trim Manufacturer:
 - a. Shall be approved by **Dryvit System, Inc.** and shall have signed an agreement with **Dryvit System, Inc.** to produce the **Dryvit** Insulation Board in accordance with **Dryvit System, Inc.**'s specifications
 - b. Shall be experienced and competent in the manufacturing of Expanded Polystyrene Insulation Board
 4. Panel Fabricator:
 - a. Shall be a Trained Applicator
 - b. Shall be experienced and competent in the fabrication of architectural wall panels and shall employ the proper equipment to fabricate such panels
 5. Panel Erector:
 - a. Shall be the Panel Fabricator, or approved by and under the direct supervision of the Panel Fabricator
 - b. Shall be experienced and competent in the installation of architectural wall panel systems and shall employ the proper equipment to install such panels
 6. Sealant Contractor:
 - a. Shall be the Trained Applicator or a subcontractor to and under the direct supervision of the Trained Applicator
 - b. Shall be experienced and competent in the installation of high-performance industrial and commercial sealants
- B. Design and Detailing:
1. General:
 - a. All exposed surfaces of **Glas-Lath** shall be covered with **Dryvit** Coatings:
 - (1) Exposed edges of **Glas-Lath** shall be covered with a layer of detail mesh from front to back of **Glas-Lath** surfaces, and shall be embedded in **Genesis**.
 - (2) At the head of wall penetrations, drip flashing must be used.
 - (3) At the base of the wall, drip flashing may be used in lieu of the edge wrapping as a starter strip. If edge wrapping is used, the coatings shall be held back from the base of the wall 1/8" to 1/4".
 - b. Where **Dryvit** Insulation Board is used for trim, it must be completely encapsulated by the **Dryvit** Lamina.
 - c. The use of **Dryvit** Insulation Board and its maximum thickness shall be in accordance with the applicable building codes and **Dryvit System, Inc.**'s approvals.
 - d. The length and slope of inclined surfaces shall follow guidelines listed below:
 - (1) Minimum slope: 6" rise in 12" of horizontal projection.
 - (2) Maximum length of slope: 10' for **Glas-Lath** Insulation Board and for Expanded Polystyrene trim.
 - (3) Inclined surfaces shall not be used for areas defined as roofs by building codes.
 - (4) Use not meeting the above criteria shall be approved in writing by **Dryvit System, Inc.** prior to installation.
 2. Substrate Systems:
 - a. Shall be engineered to withstand all applicable loads including: live, dead, positive and suction wind, seismic, etc. Bond strength, fastener strength, and connection strength shall be analyzed and engineered. Appropriate factors of safety shall be used.
 - b. The maximum deflection under positive or suction full design loads of the Substrate System shall not exceed the following values:
 - (1) **Dryvit** Finish: 1/240th of the span.
 3. Substrates:
 - a. Acceptable substrates for the **Exsulation** System include, but are not limited to: masonry, exterior plywood, steel and aluminum panels, open framing (steel or wood); may be applied over sub sheathings, i.e., exterior grade gypsum sheathing
 - b. It shall be the responsibility of the Structural Engineer or Architect to assure open framing or open framing with a subsheathing is adequately braced as required by the model building codes

- c Sheathing substrates shall be oriented with their strong axis perpendicular to the supporting framing.
 - d The Trained Applicator shall verify that the proposed substrate is acceptable to the applicable regulatory authorities prior to installation of the **Exsulation System**.
 - 4. Expansion Joints
 - a Continuous **Dryvit** expansion joints shall be installed at the following locations:
 - (1) Where expansion joints occur in the Substrate System
 - (2) Where building expansion joints occur
 - (3) Where the **Exsulation System** abuts other materials
 - (4) Where the substrate changes
 - (5) Where significant structural movement occurs, such as at:
 - (a) Changes in roof line
 - (b) Long continuous elevations
 - (c) Changes in building shape and structural system
 - b Expansion and contraction of the **Exsulation System** and adjacent materials shall be taken into account in the design of **Dryvit** expansion joints, with proper consideration given to sealant properties, installation conditions, temperature range, coefficient of expansion or materials, joint width-to-depth ratios, etc.
 - 5. Control Joints:
 - a A control joint shall be installed on all wood frame floor joists, see Figure No. 2 in appendix.
 - 6. Details
 - a The latest published information shall be followed for standard detail treatments.
 - b Non-standard details shall follow the recommendations of **Dryvit System, Inc.**
 - c Corners shall be reinforced by wrapping **Dryvit's** Detail Mesh around the corners.
 - d Openings (windows, doors, equipment, etc.) shall be reinforced using a 9 1/2" wide strip of **Dryvit** Detail Mesh laid at a 45° angle to the opening corner as shown in Figure No. 4.
 - e All wall penetrations require flashing be installed at the head of openings as shown in Figure No. 3.
 - C. Dimensional Tolerances:
 - 1. Structural Steel Framing shall meet the requirements of the American Institute of Steel Construction.
 - 2. All other substrates shall be flat within 1/4" within any 4'-0" radius.
 - 3. **Owens-Corning Glas-Lath**:
 - a. Thickness = 1/16"
 - b. Width $\pm 1/8"$
 - c. Length $\pm 3/8"$
 - d. Squareness 3/32" max. off square.
- 1.03 SUBMITTALS:
- A. Samples:
 - 1. Two 2'-0" x 4'-0" samples of the **Exsulation System** for each color and texture specified shall be submitted to the Architect. Each sample shall be prepared using the same tools and techniques proposed for the actual installation by the applicator selected for the project.
 - 2. One of the Architect's samples shall remain at the job site for use in comparing the approved appearance to that being installed.
 - B. Reports, Calculations and Certificates:
 - 1. Copies of selected test reports by independent laboratories verifying the performance of the **Exsulation System** shall be submitted to the Architect upon request.
 - 2. Engineering calculations verifying the structural performance of the **Exsulation System** shall be submitted to the Architect upon request.
 - 3. The Trained Applicator shall submit a copy of his current certificate of training by **Dryvit System, Inc.** to the Architect prior to application of the **Exsulation System**.
 - C. Maintenance Kit:
 - 1. The following materials shall be delivered to the location where the **Exsulation System** is being applied:
 - a. For each finish and color, one 5-gallon bucket of **Dryvit** Finish.
 - b. One 5-gallon Bucket of **Genesis**.
 - c. One roll of 9 1/2" wide Detail Reinforcing Mesh.
 - d. One 4'-0" x 8'-0" **Owens-Corning Glas-Lath** Insulation Board.

1.04 DELIVERY, STORAGE AND HANDLING

A. Dryvit Materials

1. Delivery and Handling

- a. All materials supplied by **Dryvit System, Inc.** shall be in the original, unopened packages with labels intact when delivered to the project location. Upon arrival, materials shall be inspected for damage, particularly for freezing, and **Dryvit System, Inc.** informed of any discrepancies. Unsatisfactory materials shall not be used.

2. Storage

- a. All materials supplied by **Dryvit System, Inc.** shall be stored in a cool, dry location, out of sunlight, protected from weather and other damage, and at temperatures not less than 40°F.

B. Owens-Corning Glas-Lath Insulation Board

1. Delivery & Handling

- a. **Glas-Lath** shall be delivered to the project location in the original, unopened bulk packages. Handling of the bulk packages shall be by use of mechanical equipment. Upon arrival, the packages shall be inspected for damage, particularly for punctures and tears. **Dryvit System, Inc.** shall be informed of any discrepancies. Unsatisfactory material shall not be used.

- b. Where it is not practical to deliver a bulk package to the location of application, **Glas-Lath** shall be delivered laid flat and without bending to prevent edge damage, breakage, and mesh delamination. Upon arrival, **Glas-Lath** shall be inspected for damage, particularly the edges and mesh face for tears or punctures. **Dryvit System, Inc.** shall be informed of any discrepancies. Unsatisfactory material shall not be used.

2. Storage

- a. **Glas-Lath** shall be stored in its original unopened bulk packages which contains a polyethylene shroud and cardboard overlays.
- b. Opened packages of **Glas-Lath** shall be stored in a dry location, protected from weather and physical damage.
- c. All materials such as substrates, framing, sealants, fasteners, etc. supplied by others shall be stored per manufacturers instructions.

1.05 JOB CONDITIONS

A. Existing Conditions:

- 1. The General Contractor shall provide access to electric power and to clear, potable water at the area where the **Exsulation System** will be installed.

B. Environmental Conditions:

- 1. The ambient air temperature shall be 40°F or greater and rising at the time of installation of the **Dryvit** materials and shall remain so for 24 hours thereafter.

C. Protection:

- 1. Adjacent materials shall be protected from damage during the installation of the **Dryvit** materials.
- 2. The **Dryvit** materials shall be protected from weather and other damage immediately after installation, including installation of sealants and flashings.
- 3. Uncoated **Glas-Lath** Insulation Board may not be left installed and exposed to the weather for a period of more than 4 months.

D. Sequencing and Scheduling:

- 1. Installation of the **Dryvit** materials shall be coordinated with the other construction trades.
- 2. Sufficient manpower and equipment shall be employed to insure a continuous operation, free of cold joints, scaffold lines, texture variations, etc.

PART II - PRODUCTS

2.01 GENERAL

- A. All components of the **Exsulation System** shall be obtained from **Dryvit System, Inc.** or its authorized Distributors. No substitutions of, or additions of, other materials shall be permitted without prior written permission from **Dryvit System, Inc.**

2.02 MATERIALS

A. Owens-Corning Glas-Lath Insulation Board

- 1. Shall be produced by **Owens-Corning Fiberglas**.
- 2. Shall be manufactured to **Owens-Corning Fiberglas'** specification No. CAS CI-278.50
- 3. Nominal density shall be 4.0 P.C.F.
- 4. Shall not exceed the following dimensional limits:
 - a. Thickness $\pm 1/16"$
 - b. Width $\pm 1/8"$

- c. Length = 3/8"
- d. Squareness 3/32" max. off square
- e. Maximum flame spread and smoke development of **Glas-Lath** when tested in accordance with ASTM E84-84 shall be
 - a. Flame spread 25
 - b. Smoke developed 50
- f. Thermal Conductivity, "k", shall be 0.23 BTU-in./hr.-ft.².°F (75°F mean) R-value 4.35/inch
- g. Standard Board size 50" width with 2" wide shiplaps along the lengthwise edges
- h. Lengths are available in 8 foot standard and 9 foot made to order
- i. Thickness Availability
 - a. 1"
 - b. 1 1/2"
 - c. 2"
- B. Owens-Corning Reinforcing Mesh**
 - 1. Pre-adhered to the fiberglass board face
 - a. Female end flush to within 1/2" from board edge (refer to Figure No. 6 for description)
 - b. Male end minimum of 2" overhang from board edge (refer to Figure No. 5 for description)
 - 2. Shall be a treated, open weave, glass fiber type
- C. Dryvit Detail Reinforcing Mesh**
 - 1. Shall be supplied by Dryvit System, Inc.
 - 2. Shall be a treated, open weave, glass fiber type
 - 3. Shall be available in 9 1/2" widths
- D. Fasteners:**
 - 1. Approved 1 3/4" plastic washers
 - 2. Screws: Steel and wood installation:
 - a. Minimum No. 8-15 galvanized, yellow dichromate coated (or equal) self-drilling screws of appropriate length (see fastener selection guide in the appendix).
 - 3. Screws: Masonry installation:
 - a. No. 10, 12 or 14 masonry screws of appropriate length (see fastener selection guide in the appendix).
- E. Staples:**
 - 1. One-inch wide crown, 16-GA., galvanized staples of appropriate length (see fastener selection guide in the appendix).
- F. Dryvit Genesis:**
 - 1. Shall be a 100% acrylic-based product produced by Dryvit System, Inc.
 - 2. Maximum thickness: 1/4", intended for pre-spotted areas only.
 - 3. Minimum thickness: to allow for full mesh embedment.
- G. Dryvit Finish:**
 - 1. Shall be as manufactured by Dryvit System, Inc.
 - 2. Shall be factory mixed, 100% pure acrylic-based, and contain integral color and texture.
- H. Dryvit Demandit:**
 - 1. Shall be as manufactured by Dryvit System, Inc.
 - 2. Shall be factory mixed, 100% pure acrylic-based and contain integral color.
- I. Laminar:**
 - 1. The flame spread when tested in accordance with ASTM E84 shall not exceed 25.
- J. Exsulation System:**
 - 1. General physical and chemical tests:
 - a. Properties shall meet or exceed the following values for **Glas-Lath** Insulation Board when tested by the methods listed:
 - (1) Thermal Conductivity: ASTM C518: 0.23 BTU-in./hr.-ft.².°F (75°F mean)
 - (2) Vapor Permeability: ASTM E-96 (proc. A): minimum 15 perm-inches
 - (3) Moisture Adsorption: 96 hours at 120°F, 95% R.H.: gain of 0.34% vol., 4.86% wt
 - (4) Mold and Bacteria Growth: ASTM D2020/MIL-STD 810 B: no growth
 - (5) Freeze-Thaw: 60, 5 hour cycles from -3°F to 78°F in a water bath; no checking, cracking, or splitting of coatings applied over **Glas-Lath** Insulation Board with mechanical fasteners
 - (6) Freeze-Thaw/Bond Strength: 60, 5 hour cycles from -3°F to 78°F in a water bath; bond strength of **Dryvit** Coating to **Glas-Lath** 1200 P.S.F
 - (7) Water Percolation: 6" hydrostatic head for 48 hours on coatings over **Glas-Lath** Insulation Board, 0.42% wt. gain
 - (8) Water Spray: ASTM E331: Wind Driven Rain: 8" rain/ft²-hr., no water penetration to back

side through 1" **Glas-Lath**, butt joint, or shiplap joints. Initial weight gain 0.14 lbs./ft.; final weight gain (1 hr. drain) 0.0; negligible change in product strength.

(9) Water Wicking (72 hours) 0" to .50" rise of water.

2. Structural Tests

a. Impact Tests. ASTM E695. No damage to coated 8'x8' panels to at least 240 ft. lbs. (average) exceeding results for other siding materials tested.

b. Wind Load. ASTM E330. Refer to the table below for the maximum Wind Loads based on faster types, fastener spacing and substrate.

WIND-LOAD TABLE

Fastener Type ^a	"Framing" Spacing (in.)	Fastener Spacing Joints (in.)	Fastener Spacing Field (in.)	Ultimate Loading (P.S.F.) Joints		Notes
				Shiplap	Butt ^b	
Staple	16	4	4	90*	80*	-
Staple	24	4	4	70*	N/A	-
Screw	12	12	16	105*	90*	c
Screw	12	12	18	90*	80*	d
Screw	16	12	16	90*	90*	e
Screw	16	12	12	105*	90*	c
Screw	24	12	12	90*	80*	e
Masonry Screw	24	12	12	90*	80*	-

* Refer to applicable building codes for minimum safety factor.

- Notes:
- All screws have 1/4" diameter plastic washer.
 - Located on studs vs. solid substrate.
 - Minimum .040" aluminum for ultimate loading; limit of 90 P.S.F. on 26 GA. steel.
 - Limit 75 P.S.F. on 26 GA. steel and .032" and .040" aluminum.
 - No aluminum; limit minimum 22 GA. steel.

c. Substrate designation:

- 14-20 gauge steel framing.
- 20-26 gauge metal panels or 0.032"-0.040" aluminum panels.
- Wood framing.
- Plywood, 1/2" min. thickness.
- Masonry (masonry screws) or to 1"x3" min. furring strips (staples).

3. Fire Tests.

a. **Glas-Lath** Insulation Board shall have been tested by the following methods with the results listed.

- (1) Flame spread: ASTM E84; **Glas-Lath** flame spread rating of 25, smoke development rating of 50.
- (2) Modified ASTM E108 (Diversified Fire Test):
 - (a) Condition: Gas Flame impinging directly on **Glas-Lath** through coatings "window" break.
 - (b) Results: **Glas-Lath** did not melt, punk, or spread fire vertically.

b. Dryvit Coatings:

- (1) ASTM E84:
 - (a) Flame spread: 20.
 - (b) Smoke Developed: 10.

K. Portland Cement:

1. Shall be type I, II, or III, meeting ASTM C150, gray in color, fresh and free of lumps.

L. Water

1. Shall be clear, potable, and free of all foreign matter.

M. Sheathing As A Substrate:

1. Plywood—Minimum thickness 1/2".
2. Metal Panels—Minimum thickness 26 gauge.
3. Aluminum Panels—Minimum thickness .032".

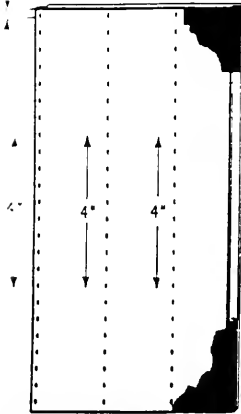
Glas-Lath Over Masonry

- (1) General
 - (a) Glas-Lath Insulation Board may be attached directly to concrete block, poured concrete, or brick
 - (b) All Glas-Lath joints must be tight but need not be shiplapped
- (2) Masonry Screws:
 - (a) Fasteners are to be a minimum No. 12 corrosion-resistant masonry screw, in conjunction with approved plastic washer.
 - (b) Fasteners must be of sufficient length to penetrate the masonry to a minimum of 1".
 - (c) Refer to the appendix for fastening schedule
- (3) Furring Strips (Wood)
 - (a) Glas-Lath may be attached by staples to minimum nominal size 1"x3" furring strips which have been attached to the masonry.
 - (b) Furring strips are to be spaced at a maximum of 16" on center and fastened to the masonry at a distance which satisfies loading requirements
 - (c) Furring strip fasteners must penetrate the masonry a minimum of 3/4".
- (4) Furring Strips (HAT Channel):
 - (a) Glas-Lath may be attached by screws to minimum 26-gauge HAT channels which have been attached to the masonry.
 - (b) HAT Channels are to be spaced at a maximum of 24" on center and fastened to the masonry at a distance which satisfies loading requirements.
 - (c) HAT Channel fasteners must penetrate the masonry a minimum of 3/4"

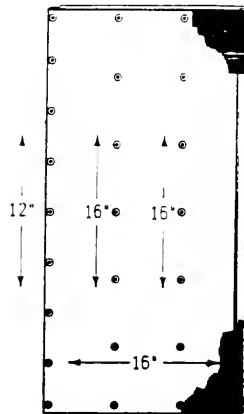


Additional Installation Details Are Available. Contact Dryvit System, Inc. Representative.

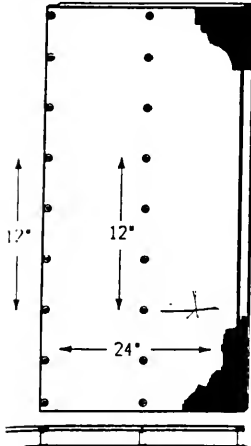
STAPLES TO WOOD FRAMING*
(16" OR 24" O.C.)



SCREWS & WASHERS TO WOOD/STEEL FRAMING*(16" O.C.)

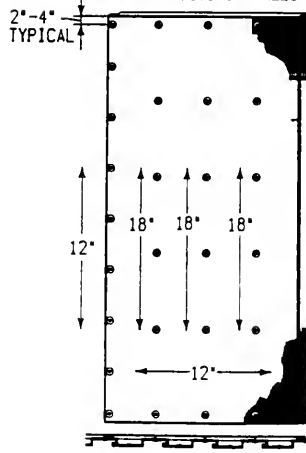


SCREWS & WASHERS TO MASONRY, WOOD/STEEL FRAMING (24" O.C.)*



PLAN SECTION

SCREWS & WASHERS TO METAL BUILDING PANELS*



PLAN SECTION

Figure No. 1

* When Butt Joints are specified, each board must be fastened separately

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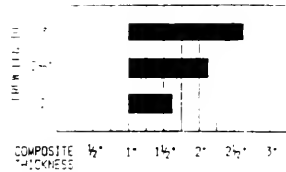
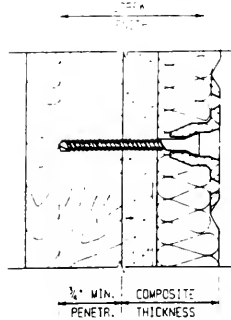
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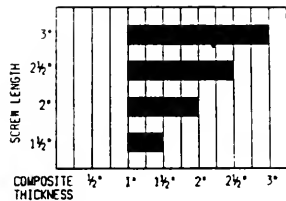
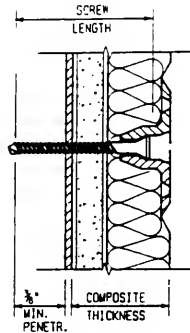
Fastener Selection Guide Screws



Wood Substrate

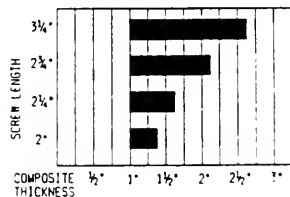
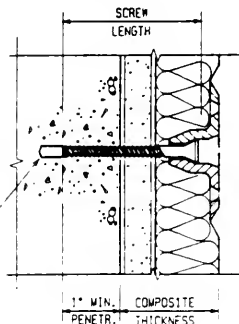


Steel Substrate



Masonry Substrate

NOTE:
DRILL HOLE
1/2" DEEPER
THAN SCREW
PENETRATION



SUBSTRATES

DS156

The Dryvit Outsulation® System is an exceptional exterior insulation and finish system for new construction as well as for retrofit of older existing buildings. There are many construction materials which can be utilized as effective substrates. Following is a list of recommended substrates and recommendations for their use. If a substrate is encountered which is not on this list, contact Dryvit Systems, Inc. or your Dryvit distributor for recommendations.

SUBSTRATE

RECOMMENDATION

Exterior Grade Gypsum Sheathing
(Also with Type X Core)

Shall conform to Federal Specification SS-L-30D, Type II, Grade W, Class 2, ASTM C-79. At the time of application, paper must be firmly bonded to the core.
Note: Minimum thicknesses of sheathing shall be as follows: for 16" o.c. stud spacing, 1/2"; for 24" o.c. stud spacing, 5/8".

Poured-in-Place Concrete

There shall be no dimensional variations in excess of plus or minus 1/4" in 4' radius.

Precast Concrete

Concrete shall be free from all releasing agents, oils or paraffins. If there is any doubt concerning the concrete, it should be either acid washed or a test section of Primus/Adhesive® and insulation board shall be applied.

Concrete Block

Brick

Terra Cotta

Stucco

New concrete block shall be clean and plumb with joints struck flush.

Stucco should be unpainted and should be sound and washed to remove dirt and loose material from surface.

Existing masonry surfaces shall be cleaned with an appropriate masonry cleaner and thoroughly flushed with water.

Unpainted Exterior Grade Plywood

Shall be no less than 1/2" thick, minimum 4-ply APA exposure 1 or exterior grade C-D or better with C or better, side in contact with ADEPS® adhesive. American Plywood Association recommendations must be followed for spacing and installation.

Latex and Oil-Based Painted Surfaces

Shall be free of chalk and blistering, peeling or scaling paint. Remove gloss by sanding. Apply Prymit®, a primer/adhesion promoter, before installing insulation board. Test for adhesion per Dryvit's Prymit product sheet, DS424.

Sound Glazed Brick or Tile

SUBSTRATES

DS156

Painted Masonry Painted Plywood	Utilize the Wind-lock mechanical fastener or equal following Dryvit Systems, Inc.'s guidelines as noted in Application Bulletin No. 88-13.
2 5 and 3 4 Self-Furring Galvanized Metal Lath	For use as a retrofit substrate over painted surfaces and areas where the condition of surface may not allow direct adhesive application. Primus/Adhesive mixture shall be applied to the insulation board using the ribbon and dab method.
Silicone Treated Gypsum Core Sheathing Surfaced with Inorganic Fiberglass Mats	Shall be sound, dry, clean and free of all foreign materials. Shall contain factory-applied alkali-resistant coating.
Calcium Silicate Panel	Color Prime™ is required for application over calcium silicate panels. A 15-minute thermal barrier must be addressed as required by model building codes.
Exterior Cement Board	Ensure deflection criteria of framing meets guidelines established by sheathing manufacturer.

TEST SECTION

If there is any doubt concerning coatings or sealers that may have been applied to a substrate, a test section should be made and evaluated. A section of approximately one foot square of the Insulation System should be applied to the substrate in doubt. The section should be allowed to dry for a minimum of three days and then removed. A successful test would be indicated by failure within the insulation board. There should not be delamination from the substrate.

TEST SECTIONS SHOULD BE DONE WITH A REPRESENTATIVE AUTHORIZED BY DRYVIT SYSTEMS, INC. PRESENT. CONTACT DRYVIT OR YOUR DISTRIBUTOR.

Information contained in this bulletin conforms to the standard detail recommendations and specifications for the installation of Dryvit Systems, Inc. products as of the date of publication of this document and is presented in good faith. Dryvit Systems, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Dryvit Systems, Inc.

Dryvit Systems, Inc.
One Energy Way
West Warwick, RI 02893
800-556-7752

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CLEANING & RECOATING

CLEANING

I. GENERAL CLEANING

A. Dryvit® finishes that become soiled may be cleaned by use of the following cleaning solution:

- 1 gallon warm water
- 1 quart household bleach
- 1 cup of trisodium phosphate (TSP)

Apply the solution to the entire area and lightly agitate with a soft bristle brush. Rinse thoroughly with clean water.

B. Dryvit finishes that become soiled may also be cleaned with "Sure Klean No. 600". It is recommended that a trial area be cleaned beginning with a concentration of 1 (one) part "Sure Klean No. 600" to 20 (twenty) parts water. The concentration may be increased until the dirt is removed. It is recommended that the concentration be no stronger than 1 (one) part "Sure Klean No. 600" to 6 (six) parts water. Before applying the solution, the area to be cleaned must be pre-wetted with water. Care must be taken when applying the solution since too much agitation will do more harm than good. Application and rinsing should be as gentle as possible.

C. "Sure Klean No. 600" is also the appropriate cleaner to be used to remove efflorescence that may occur on the reinforced base coat prior to finish installation or if efflorescence appears on the finish. Follow instructions in paragraph B.

II. RUST STAINS

A. Rust stains may be removed by using "Sure Klean Ferrous Stain Remover". It is recommended that the ferrous stain remover be used in the concentrated form without dilution. The area to be cleaned should be pre-wetted. Use gentle application techniques and rinsing. Multiple applications may be necessary to remove deep-seated rust stains. Do not use agitation or more harm than good will be done.

III. ASPHALT OR TAR STAINS

A. We know of no product which will remove this type of stain. Solvents used to clean this type of stain usually will attack the finish or dissolve the Dryvit Insulation Board. We recommend scraping the stain and finish off and refinishing as described in the Pocket Guide (DS204) under patching and repair.

REFINISHING

I. Refinishing Quarzputz® and Sandblast® Finish

A. If for any reason these finishes must be refinished, the proper way to do it is:

1. Be sure the area to be re-coated is thoroughly cleaned as outlined in the cleaning section above.

2. Trowel on a light coat of Freestyle® finish. Ensure the surface is smooth and level.

3. Allow the Freestyle to completely dry (usually 24 hours).

4. Apply the new Quarzputz or Sandblast finish

RECOATING

Dryvit Quarzputz, Sandblast or Freestyle finishes may be refreshed or the color may be changed by applying either Revyvit® or Demandit® coatings in accordance with their application instructions. Ensure that the area to be coated has been thoroughly cleaned as outlined in the cleaning section above and follow the application instructions for the respective coating.

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HISTORY

In the mid-1960's, the construction industry became aware of "systems technologies" and their potential for solving complex problems. Europe, through experiences gained in the massive rebuilding of cities following WWII, was the leader in building systems innovations.

Developing world concern for energy-related issues focused the attention of Dryvit's founder, Frank Marsilli, on development of an exterior wall system that would provide both energy efficiency and design flexibility in a cost-effective manner. At the German headquarters of BASF Chemical Corporation, he was shown samples of a synthetic stucco product that resisted cracking when subjected to severe and repeated flexing. Combined with other component parts, the resulting system possessed substantial insulation capabilities.

The outcome of initial meetings between Mr. Marsilli and BASF was the formation in 1969 of a small company in Rhode Island. The company was named Dryvit®, from the German phrase meaning fast dry. While perhaps insignificant at the time, an entirely new construction industry was established based on Dryvit technology.

During the mid-1970's, the term "Outsulation" was coined, i.e., the thermal protection on the outside of a building where it is more efficient.

Dryvit's first manufacturing operation opened in Rhode Island in 1972 with a production capacity of 10 million sq. ft. per year. As a result of rapid and positive acceptance of the Outsulation System, additional plants have been opened to service United States, Canadian and international markets.

A basic and active Dryvit philosophy has been the establishment of comprehensive programs and methods for testing and approval of Dryvit systems and products. Dryvit's approval by every major code agency in the United States and an increasing number in overseas markets is testimony to the worldwide acceptance of the Dryvit Systems.



REPAIR & MAINTENANCE



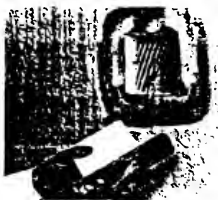
1. Using a sharp utility knife, cut through and remove the lamina, exposing a neat uniform-sized area of insulation larger than the damaged area

Use a disk grinder or belt sander to expose the reinforced Primus® base coat, approximately 3" (76mm) around the damaged area. Use an aluminum oxide disk or belt, 36 grit



-
2. Cut out all remaining Insulation Board carefully. Clean the substrate of any old Primus/ Adhesive®. If working over gypsum sheathing, take particular care to do as little damage to the sheathing as possible.

-
3. Cut a piece of Dryvit® Insulation Board to fit tightly into the damaged area. Sand the edges of the Insulation Board for a precise fit.



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REPAIR & MAINTENANCE



4. Install Primus/Adhesive[®] mixture over the entire back of the Insulation Board to a thickness of $\frac{3}{8}$ " (10mm). Do not apply Primus/Adhesive on the edge of the Insulation Board.



5. Install the Insulation Board on the substrate. Make sure that the new Insulation Board is flush with the surrounding Insulation Board.



6. Precisely mask the surrounding area with masking tape. Cut the Reinforcing Mesh so that it will cover the patch area, lapping onto the original, reinforced base coat a minimum of $2\frac{1}{2}$ " (64mm).



7. Install Primus/Adhesive[®] mixture on the face of the Insulation Board, taking particular care to keep the Primus/Adhesive off the surrounding original Finish edge. Embed the Reinforcing Mesh.

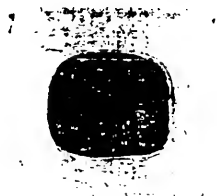


8. Using a small damp brush, smooth irregularities and feather the edge of the Primus/Adhesive[®] mixture. **The Reinforcing Mesh must be fully embedded with no Mesh pattern showing.**



Wait a minimum of 24 hours to allow the Primus/Adhesive to cure.

9. If necessary again, precisely mask the surrounding existing Finish with masking tape.



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REPAIR & MAINTENANCE



1. PREPARE THE SURFACE

10. Install the new Finish over the patch area and texture to match the surrounding Finish.



11. Allow the Finish to dry for a short period of time depending on weather conditions. Remove the masking tape.



12. Feather the edges of the patch to blend inconspicuously with the surrounding texture. Use a small brush or a nail to blend edges of the patch into the surrounding texture. After the patch has dried, there may be a color variation between the patch and the surrounding area. This should become less noticeable as environmental conditions blend the areas together.



NOTE: The Dryvit® Finish should be ordered to match the original lot number shipped to the job.

13. For areas where the damage is slight, you may eliminate steps above that are not necessary. Consult your local Dryvit Distributor for specific recommendations and assistance.

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RETROFIT



The Dryvit[®] System is ideally suited to the retrofit or remodeling of existing buildings. The Dryvit Outsulation[®] System is uniquely compatible with specific segments of the retrofit market. The Outsulation System is the ideal means of encapsulating an existing structure of concrete, stucco or masonry within an entirely new building envelope or membrane. Older metal or wood buildings or structures utilizing metal siding are easily and economically retrofitted utilizing the System. Regardless of underlying factors behind the decision to retrofit a structure, Dryvit systems are the proven means of achieving superior design quality with the additional benefit of enhanced insulation values. The only criteria for use of Dryvit Outsulation is that the systems be installed according to the manufacturer's recommendations over structurally sound Dryvit approved substrates. A brief explanation of the systems and their inherent differences is provided to facilitate the architect's selection of systems based on specific project requirements.

The Dryvit Outsulation System is compatible, for use in retrofit applications, with all types of existing buildings. There are no height or wind loading restrictions when the system

has been designed in accordance with governing code and engineering requirements.

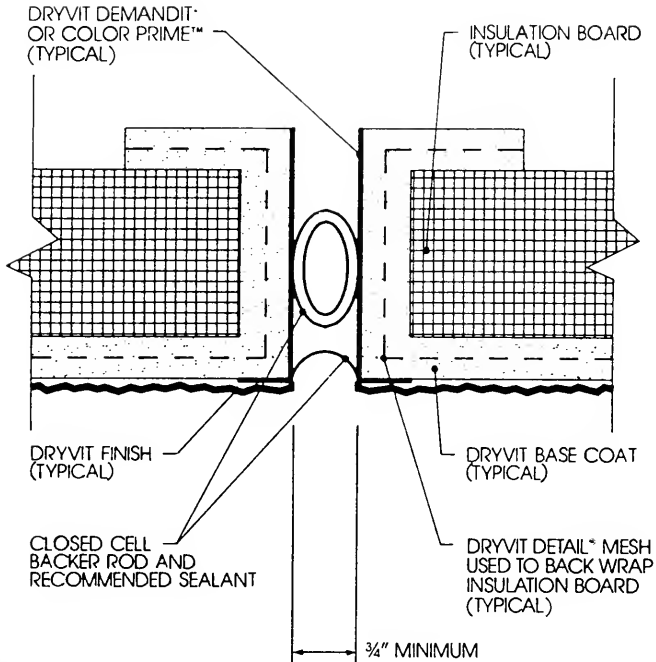
The superior design and insulation characteristics of Dryvit Outsulation make it an ideal choice for use in retrofit applications. These inherent characteristics of Outsulation are attributable to the use of expanded polystyrene Dryvit Insulation Board as a base material. Dryvit Insulation Board is a key component in the Outsulation System. It is manufactured to stringent Dryvit specifications at locations worldwide. Dryvit Insulation Board has an approximate R value of 4 per inch of material. The product is readily cut to any configuration, enabling designers to recreate intricate historical styles or details in a cost effective manner unattainable with other materials. Older or deteriorating buildings may be expeditiously transformed into contemporary structures utilizing Dryvit Insulation Board, shapes and thicknesses where literally the designer's imagination is the only limitation.

The highly flexible nature of Dryvit Outsulation makes it readily compatible with specialized door, window and flashing details that must be developed in conjunction with retrofit design and construction

~~To insure satisfactory performance of the Outsulation System in retrofit applications,~~ designers should: (1) consult local building codes to determine the suitability of Dryvit Insulation Board in given applications, (2) determine the maximum thickness of Dryvit Insulation Board that may be applied over the original substrate, (3) verify the structural integrity of deteriorating buildings, in those instances where Outsulation is contemplated, as a means of preventing further deterioration of an existing structure.

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Joint Detail



Notes:

- DEMANDIT OR COLOR PRIME WILL BE APPLIED INTO THE JOINTS PRIOR TO APPLYING FINISH COAT TO THE FACE OF THE WALL.
- DEMANDIT WILL BE COLOR MATCHED TO THE FINISH AND WILL EXTEND ONTO THE FACE OF THE WALL.
- IF THE SEALANT IS RECESSED, THE FINISH MUST BE BROUGHT TO THE FACE OF THE SEALANT.
- SEALANT MUST COVER ALL TRANSITIONS BETWEEN THE FINISH COAT AND DEMANDIT.

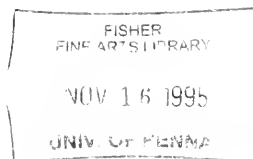


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